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JULY 24 1954



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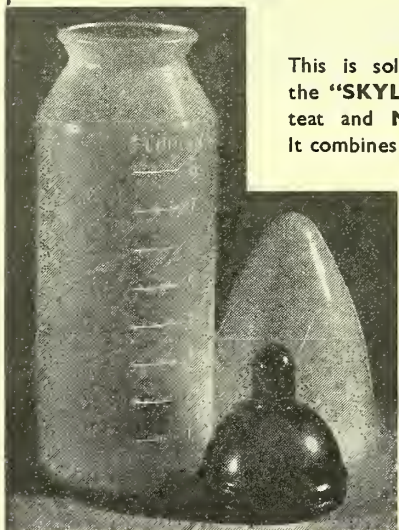
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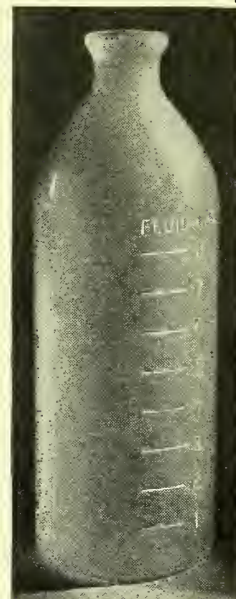
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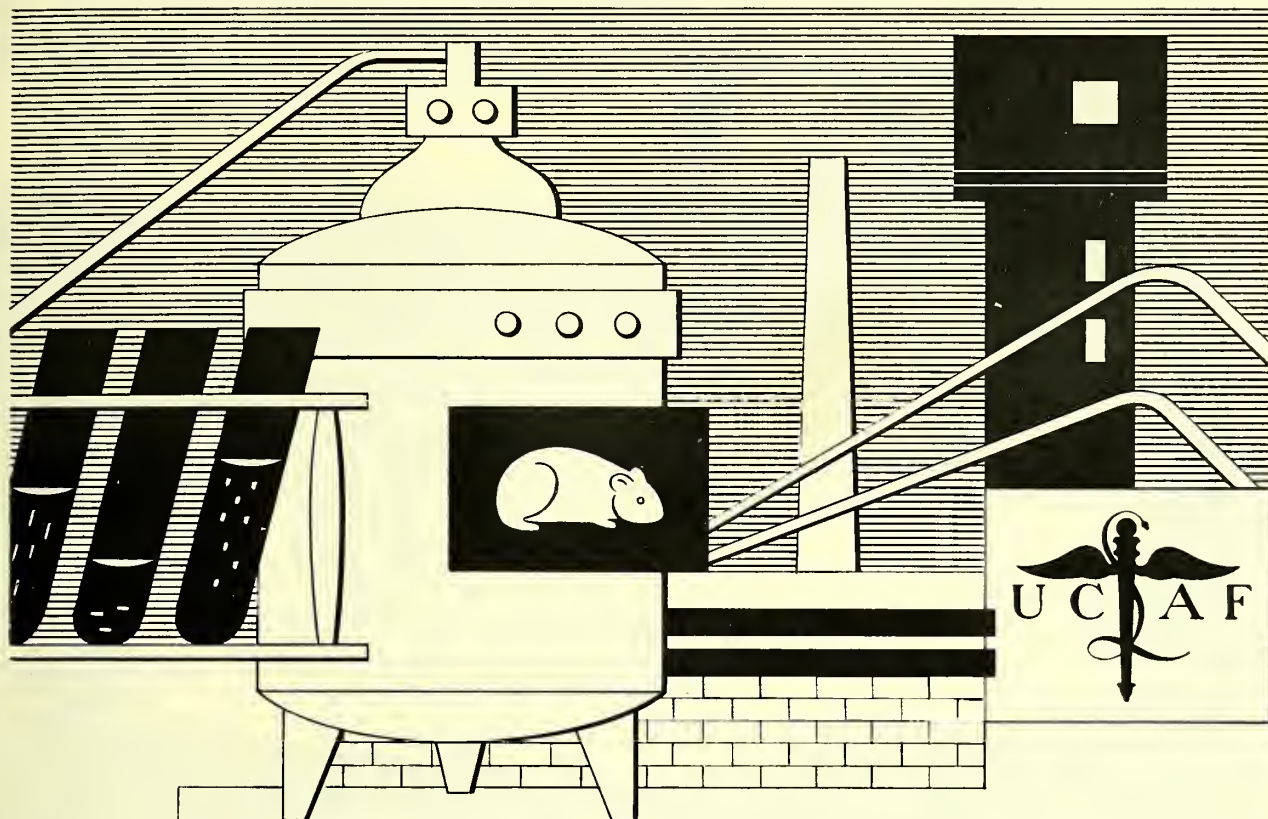
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extra
comfort



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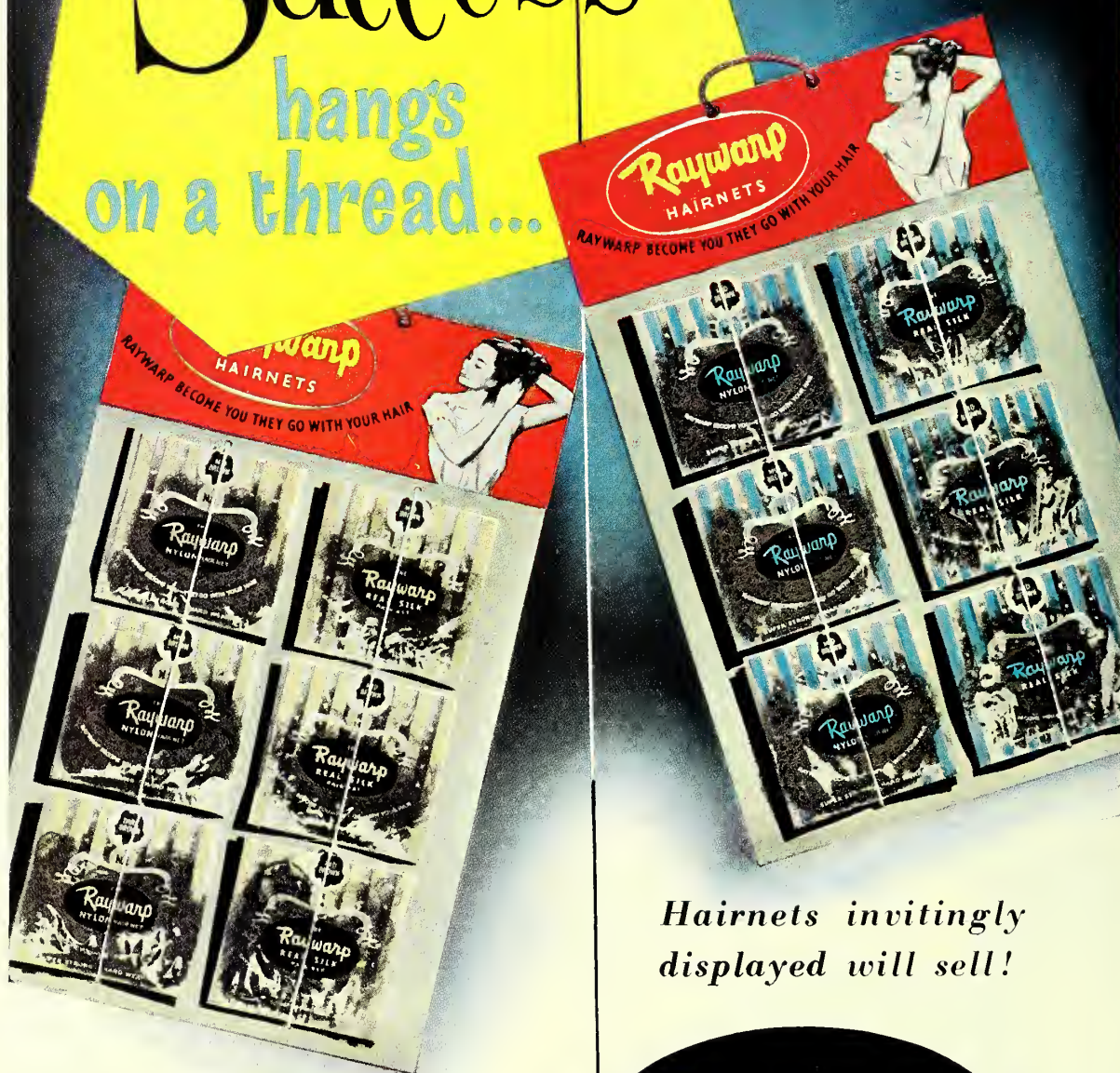
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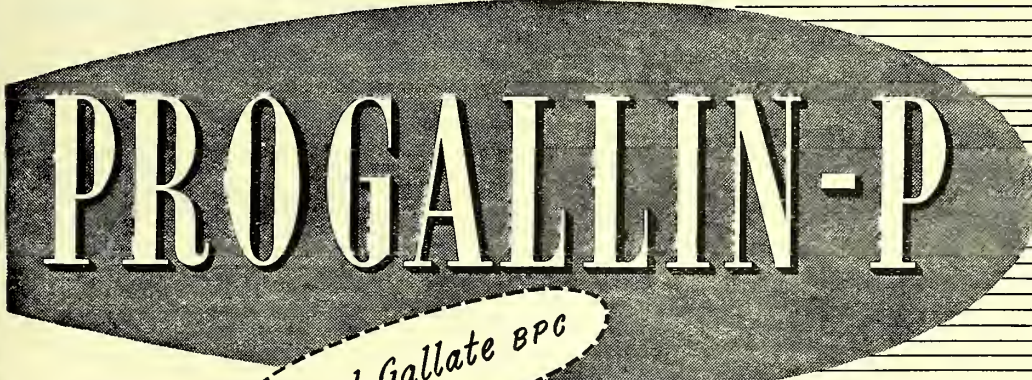


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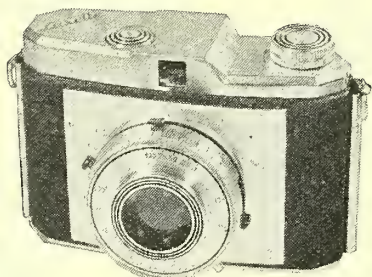
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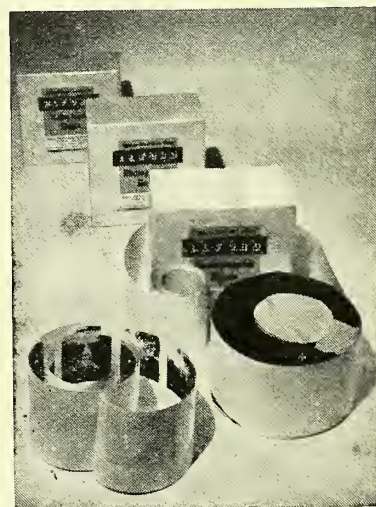
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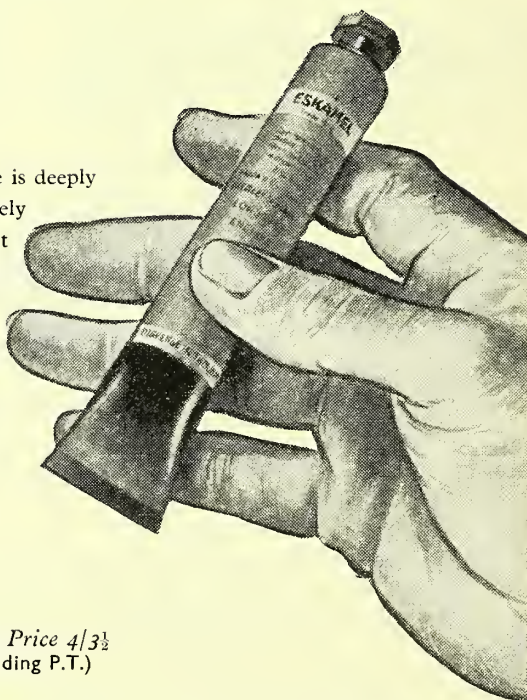
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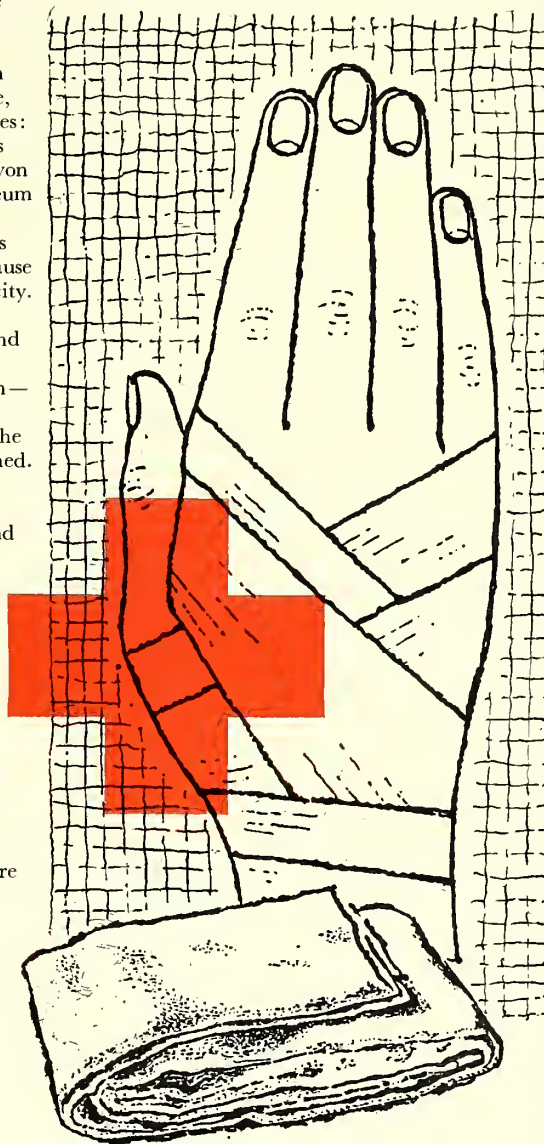
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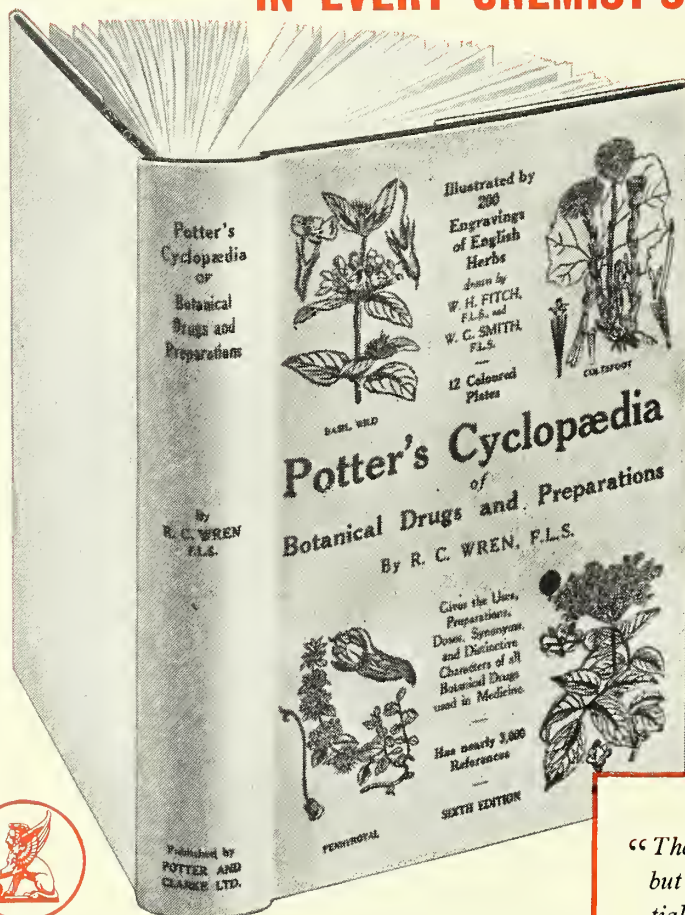
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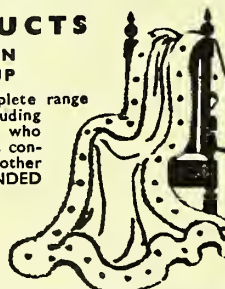
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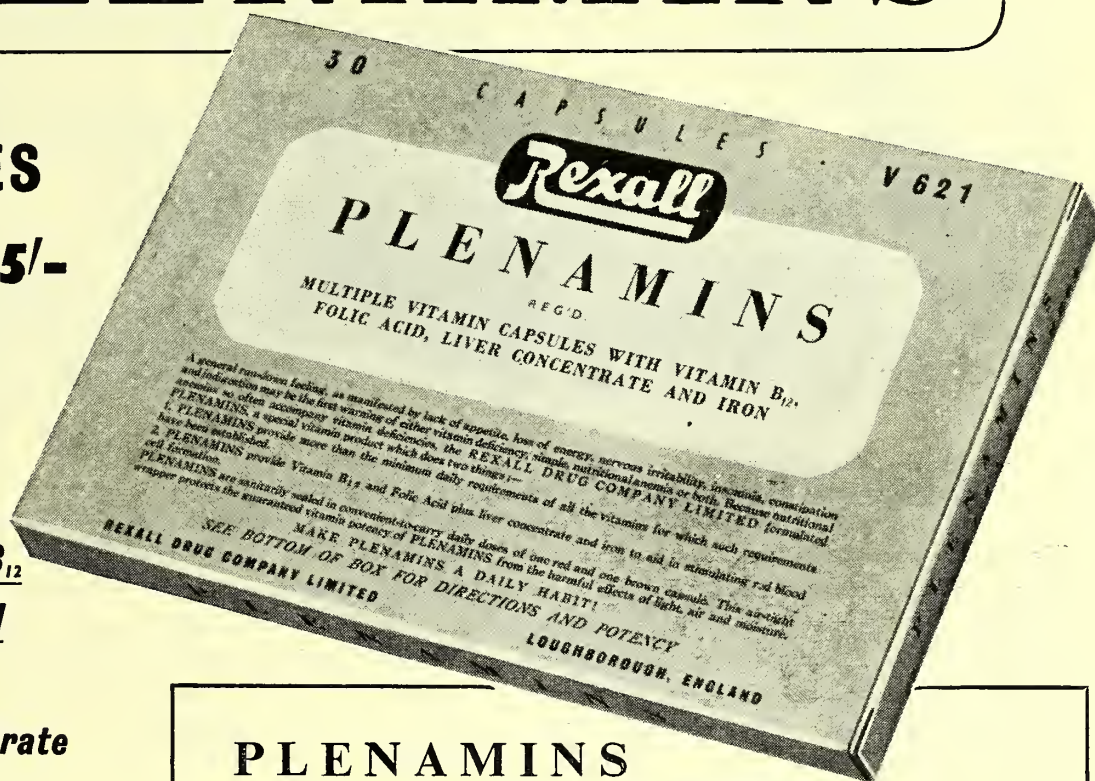
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prevention
or relief of
Motion
Sickness

'MARZINE' brand Cyclizine Hydrochloride, a new compound for the prevention or relief of motion sickness, is remarkably free from any tendency to produce untoward side effects such as drowsiness, dryness of the mouth or blurred vision.

In clinical trials it was given to over four thousand steamship passengers, the majority of whom reported that the relief obtained was excellent. Similar results were obtained among air travellers. Where sickness had already occurred, 'Marzine' reduced or abolished the symptoms in practically all cases. Side effects in all groups were no more than 4 per cent.

'MARZINE' is of distinct value, too, in the treatment of vomiting of pregnancy and is worthy of trial in the symptomatic management of Ménière's syndrome.

'Marzine' is usually given in a dose of 50 mgm. (one product) three times a day before meals for adults. For children, half this dose is advised. 'Marzine' is issued in tubes of 10 at 2/6 plus 6d. purchase tax and bottles of 100 at 20/- plus 3/9 purchase tax (prices subject to usual discount).

'MARZINE'

CYCLIZINE HYDROCHLORIDE

- leaves the individual alert



BURROUGHS WELLCOME & CO. (The Wellcome Foundation Ltd.) LONDON

The CHEMIST AND DRUGGIST

Volume 162

JULY 24, 1954

No. 3883

JAPANESE MARKS

Disposal commenced

THE Board of Trade has announced that approximately a hundred trade marks on the United Kingdom register that were held by Japanese proprietors in 1941 and which are vested in the Custodian of Enemy Property for England are to be cleared from the register or returned to their former Japanese proprietors or successors in title. The former Japanese proprietors or their successors in title should, if still interested, request the assignment of the marks to them by the Custodian. An opportunity will be given to British and other Allied interests to object to any such assignment before the Custodian acts. If a *prima facie* case is made out against the return of a mark to the former Japanese proprietor or, in any case, if the mark in question was registered in Part A of the Register since December 8, 1934, the Custodian, failing an acceptable agreement between the parties concerned, will not assign the mark to the former proprietor. The latter may attempt to recover the registration by applying for re-registration of the mark, and the Custodian will consider cancelling the existing registration to allow the application to proceed.

OILS AND FATS

Import arrangements

THE following arrangements for the import of lard and animal fats and oils from August 1 have been made by the Board of Trade:—Imports of lard from the sterling area are being allowed under Open General Licence. Imports from non-sterling non-dollar sources are admissible under specific import licences. A limited quantity will be admitted from the U.S.A. under the provisions of the Mutual Security Act. Imports of animal (excluding marine animal) oils, fats and greases other than butter, lard, premier jus, oleo stock and unrendered pig fats are admitted from non-dollar countries under Open General Licence. Further details are given in Notices to Importers Nos. 665 and 666 issued by the Import Licensing Branch of the Board.

KEY INDUSTRY DUTY

Exemptions

FOR the period July 21 to August 18 the following have been added to the list of chemicals exempted from Key Industry Duty:—

Anthranilic acid; *p*-chlorotoluene; diallyl phthalate; 2:6-di-*tert*-butyl-*p*-cresol; diphenylamine; *N*-monomethylamine; piperonylic acid; sodium riboflavine-5-phosphate; tetrahydrofuran; and 2:4-xenol.

The order making the changes is published as S.I., 1954, No. 956. (H.M. Stationery Office, price 2d.)

PROPRIETARIES

Association's annual report

THE thirty-fourth annual report of the executive of the Proprietary Association of Great Britain presented to members at the annual meeting held in London on July 15 states that the membership is now 105. It is noted that the Association had contributed a statement on the advertising to the public of preparations for the treatment of haemorrhoids to the British Code of Standards Committee. It had been decided to allow the advertising of such preparations provided that a warning notice was included on the package with the directions for use, advising users to consult their medical adviser. Members had in 1953-54 submitted 732 items of advertising copy and 112 labels, leaflets, cartons, etc., for approval. Comparative figures for 1952-53 were 933 and 87 respectively. A special subcommittee of the executive committee had been formed to study the problem of price agreement with the Ministry of Health on proprietary medicines. Mr. Ernest Brown, C.H., M.C., was elected *Chairman*, Messrs. H. G. Lazell and J. S. Walmsley were re-elected *Vice-chairmen*, and Mr. B. A. Elliman, *Treasurer*.

PRICE MAINTENANCE

Defence fund trustees' report

THE Trustees of the Resale Price Maintenance Fund have issued their first report. It records that, under the terms of the trust deed, they are empowered to apply the Fund "for the purpose of preserving and maintaining the principle of resale price maintenance and all lawful methods of its enforcement." During 1953 the trustees and council of management arranged for the investment of the major proportion of the Fund and authorised payment of certain items of expenditure. In March 1953 the following were appointed trustees: Mr. Norman Dewey, Colonel Stanley Watson, Messrs. L. D. Smith and F. G. Wells. Later, Mr. R. G. Dyas was elected *Chairman*.

CHEMICAL SOCIETY

Research grants

APPLICATIONS for grants for research in chemistry from the Research Fund of the Chemical Society are being considered in November. They should be submitted on the appropriate form (obtainable from the general secretary of the Society, Burlington House, Piccadilly, London, W.1)

not later than November 15. Applications from Fellows receive prior consideration.

SCIENCE AWARDS

AMONG British scientists recently awarded research fellowships in American institutions under the technical assistance programme sponsored by the United States Foreign Operations Administration are:—Dr. F. M. Dean (lecturer in organic chemistry, Liverpool University); Dr. R. F. Evans (chemical research laboratory, Department of Scientific and Industrial Research, Teddington, Middlesex); Dr. V. A. Knivett (chemical research laboratory, D.S.I.R., Teddington). The awards were made by the National Academy of Sciences, Washington, D.C., on the nomination of the Royal Society.

DISPENSING AT CLINICS

SPEAKING at a Rotary club luncheon in Surbiton, Surrey, recently, Mr. F. C. Wilson (a former president of the Pharmaceutical Society) expressed concern at the manner in which tablets were handed out by council clinics, sometimes in envelopes and often in paper bags. Such a practice, he said, was exceedingly dangerous and reprehensible. Every drug, however commonplace, was a potential poison to someone, he said. Chemists had often expressed amazement at the hoards of drugs stored in the average home and he urged that all stocks of medicines should be destroyed as soon as their purpose had been fulfilled. Doctors prescribed a medicine for a particular condition at a particular time and not



PRIZE-WINNER: Miss Averil E. Prickett with awards presented to her at the annual prize-giving of the Heriot-Watt College, Edinburgh (see p. 74).

for the use of another person in six months' time. For over 100 years Parliament had striven to protect the public against poisoning itself by controlling drugs, but accidents continued to happen. One cause was the habit of some people in changing the contents of containers and losing labels. Sleeping tablets should on no account be kept at the bedside or in a bedroom: some patients were inclined to forget whether they had taken their usual dose. Accidental poisoning of children constituted a serious social menace. Many protective methods had been discussed, but the only remedy was to build up a greater sense of responsibility on the part of parents.

CHEMISTS CALL ON MAYOR

A DEPUTATION of four members of the Southampton Branch of the Pharmaceutical Society recently called on the newly elected mayor of Southampton (Alderman R. E. Edmunds) to congratulate him on his appointment. The courtesy call on behalf of the Branch was made by Messrs. R. Thursby (chairman of the Branch), J. E. Jeffery (vice-chairman), J. Swan (secretary) and G. Duncan (treasurer). Mr. Thursby explained that they had called to offer their congratulations and to wish the mayor a happy and successful year of office. On behalf of all the members of the Branch he promised the mayor their help and sup-

port in every way possible during the coming year both as pharmacists and as citizens.

MEDICAL FELLOWSHIPS

THE president of the Royal Society of Medicine recently conferred honorary Fellowships on Sir Alexander Fleming, F.R.S., and, *in absentia*, Sir Howard Florey, F.R.S.

SCOTTISH NEWS

COLLEGE AWARDS

AMONG former students honoured at the annual presentation of prizes by



Mr. R. C. M. Dickson

the Heriot-Watt College in Edinburgh on July 13 was Mr. R. C. M. Dickson, M.P.S. (area director for Scotland, Boots Pure Drug Co., Ltd.). An honorary fellowship of the college was conferred upon him by Baillie Tom Curr, representing the

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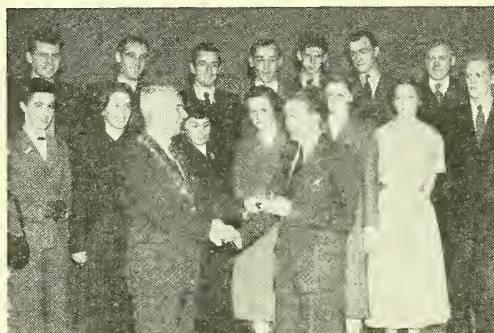
Scottish Health Services Council. He is also a member of the college pharmacy advisory committee. Miss Averil E. Prickett, Kendal, Westmorland, was the outstanding student of the year in the pharmacy department. She won the Duncan memorial medal and the prize for general excellence, together with three other awards, the J. Rutherford Hill conference prize for pharmacetics, and the prizes for physiology and pharmacognosy presented by Boots Pure Drug Co., Ltd. Other awards were: J. Rutherford Hill conference prize for pharmacetics, Margaret E. Hiles; prizes presented by Evans Medical Supplies, Ltd., G. T. Smith (pharmaceutical chemistry), P. E. Crisp (general excellence in second year), D. D. Hancock (general excellence in second year). *Intermediate Examination Course*, Joan M. Meikle (Malpas memorial prize for physics). Presenting his report for the year, Principal Hugh B. Nisbet said that Great Britain could only maintain its position as a great industrial nation by training more technologists for employment in industry. The University of Edinburgh and the Heriot-Watt College, who were acting jointly in planning a new field of training which was partly chemical and partly engineering, would help in meeting that need. The University had formulated proposals to institute a new degree (Bachelor of Technological Science) and the first subject in which it was proposed to award it would be chemical technology. The new Department would be housed in the Heriot-Watt college and its facilities will be available to various groups of students.

EXAMINATION RESULTS

THE following candidates satisfied the examiners in the Intermediate examination held by the Pharmaceutical Society in England and Wales in July:—

ALLEN, E. J. K., Rotherham; BAKER, B. J. D., Dudley; BALDWIN, S. A., Bristol; BARTON, H., Chorley; BATHURST, R. F., Watford; BEDFORD, C. N., Leicester; BETTS, Elizabeth A., Leatherhead; BLENKIN, Patricia M., Harrow; BOOKER, M. R., Conway; BOOTH, Jean, Brixton; BOWYER, P. H., Wolverhampton; BRAOLEY, K., Faringdon; BRICE, Vera D., Islington; BRIGGLER, M. P., Crawley; BROWETT, G. C., Coventry; BROWN, Anne P., Birmingham; BRUMMELL, Pamela M., Bristol; BRYANT, Pamela A., Barnet Green; BURROWS, E. J., Ipswich; BUTTERWORTH, Ann, Ashton-under-Lyne; BUTTERWORTH, Audrey, Manchester; CAOWALLAOFER, Frances M., Welshpool; CHAMBERS, J. E., Leicester; CHAPPEL, R., Plymouth; COLLMAN, G. E., Newton Abbot; COOK, B. J., Shepton Mallet; COWLEY, W. P., Southampton; DAVIES, G. M., Tredegar; DEUCHAR, P. J. R., Cromer; DIOSBURY, B., Manchester; DIXON, G. W., Helston; DUNCOMBE, J. J., Redditch; EALOEN, Shirley M., Stourbridge; FECHER, Jane W., Slough; FRAZER, M. G., Bexhill-on-Sea; FRIEND, D., Greenford; GANDHI, M. T., Dar-es-Salaam; GILES, E. E. F., Carshalton; GOOFREY, E., Willesden; GRUNOY, A. R., Chirwell; HARVEY, J., Malvern; HEINEMANN, Judith, Leicester; HILL, G., Nottingham; HILL, R. G., Glastonbury; HOOSON, M. W., Altrincham; HOLLIS, E. A., Canterbury; HOPKINS, A. J., Brockley; HOPKINS, Sheila M., Willenhall; HORSFORD, Lynne M., Swansea; INGHAM, Rosemary A., Dolgelly; ISON, P. E., Birmingham; JONES, A. W., West Bromwich; JONES, D. J., Llandilo; JONES, D., Bargoed; KANAGALINGAM, S., Singapore; KEENE, Shirley M., Pinner; LANE, Patricia M., Watford; LAUNCHBURY, A. P., Birmingham; LEEMING, J. G., Leigh; LEIVERS, T. B., Heanor; LEPPARO, J. E., Haywards Heath; LIVSLY, G. F., Bamber Bridge; LOWE, Cecile M., Sheffield; LUCKHAUS, B. R., Mill Hill; MACKLEY, A. R., Gravesend; MARSHALL, Audrey S., North Cheam; MARSHALL, Elaine M., Birmingham; MASON, C., Whitwick; MASSEY, W. D., Leigh; MORGAN, D., Holborn, London; NETHERCOTT, A. J., New

Southgate, London; NICHOLAS, H. G., Letterston; O'FLINN, P. J., Brighton; PALFREY, G. J., Pershore; PARKIN, D. A., Heage; PAUL, A. G.



STUDENT PRIZEWINNERS: Mr. W. H. Boyd (president of the Pharmaceutical Society of Northern Ireland) hands to Mr. George H. Duke, Bleary, Portadown, the Society's gold medal which he won in the Society's examinations recently. Right, Mr. G. E. McIlhagger (chairman, Associates' section, Ulster Chemists' Association) presents pharmacology prize to Mr. J. Webb, Belfast.

W., Paignton; PAYNE, E. J., Stoke-on-Trent; PEARCE, C. S., Newcastle; PEARSE, D. J., Torrington; PEARSON, A. C., Glasgow; PICKETT, J. M., Henfield; PRESCOTT, Joyce W., Birmingham; RAOFORO, B. M., Stoke-on-Trent; REES, J. C. L., Swansea; REW, D. L., Exeter; RUOGLEY, R. F., Southampton; RYAN, Joy, Manchester; RYDINGS, Mavis, Manchester; SANDRY, P. C., Paignton; SAUNOERS, J. B. C., Liskeard; SCOTT, R. F., Deal; SEGAL, F. T., Romford; SIMONS, H. J., Whitechapel; SLACK, G. A. F., Shoreham-by-Sea; SMITH, Edwin, Newcastle; SOUTHWOOD, M. J., Wolverhampton; SPARKS, Margaret D., Yeovil; STEVENS, Barbara J., Taunton; STOKER, P., Southport; STOW, Audrey K., Ipswich; THOMAS, Mary, Manchester; THORPE, D., Bromley; TINLEY, Julian P., Birmingham; TOPE, Evelyn M., Plymouth; USHER, Heather M. A., Birmingham; WEBSTER, K. R., Stoke-on-Trent; WILLIAMS, R. F. P., Teignmouth; WINTERIDGE, E. L., Southampton; WORLEY, B., Leicester; WORTH, M. D., Bristol; WRIGHT, Susan E., Stratford-upon-Avon.

IRISH NEWS

IRISH DRUG ASSOCIATION

FOR the first time for some years there will be a contest for the six rotation vacancies which occur on the committee of the Irish Drug Association, at the annual meeting being held in Dublin, on July 26. The six outgoing members all of whom offer themselves for re-election are Messrs. D. J. Bridgeman, M. Costello, P. F. McGrath, D. J. O'Hanlon, F. J. Robinson, and L. G. Smith. Mr. O'Hanlon is from Cork, and the other five outgoing members from Dublin. New nominations are Mr. D. P. McHugh, Athy, co. Kildare, and a panel of seven put forward by the Irish Chemists' Representative Organ-

isation. The I.C.R.O. candidates are Mrs. M. Halpenny, Messrs. R. Semple, M. Moore, F. McKenna, L. Manly, R. C. O'Higgins, and J. Burke.

PRESIDENT AS GUEST

THE President of the Pharmaceutical Society of Ireland (Mr. M. Costello) and Mrs. Costello, were guests at the official opening of the sixth international congress of Catholic doctors, which opened in Dublin on June 30, and at the subsequent functions.

NEWS IN BRIEF

PROFESSOR Sir Harry Platt has been elected president of the Royal College of Surgeons of England.

ALDERMAN W. J. TRISTRAM has presented to the Liverpool City Council a silver-gilt salad bowl as a memento of his period of office as lord mayor.

THE council of the Association of British Chemical Manufacturers has co-opted Mr. E. le Q. Herbert (general manager, Shell Chemical Manufacturing Co., Ltd.) a member.

THE Minister of Health (Mr. Iain Macleod) has appointed Mr. E. F. Cooper to be his assistant private secretary, and the Parliamentary Secretary to the Ministry of Health (Miss P. Hornsby-Smith) has appointed Mr. R. B. Mayoh to be her private secretary.

SPORT

Golf.—BIRMINGHAM v. MANCHESTER. At Hawkestone Park, Shropshire, on July 18. Annual match for B.D.H. and L.I.-lo challenge cups (best individual score; best seven cards from sixteen pairs in medal round (par 73)). Winners: Birmingham, by 2 strokes (531 against 533). Individual trophy: T. Cartwright, Birmingham (11), 70. Fifty golfers and friends afterwards sat down to dinner. Presentations were made by Mr. J. E. Mossman for The British Drug Houses, Ltd., and Mr. S. W. Pierce for P. B. Cow & Co., Ltd.

SOUTH LONDON AND SURREY PHARMACISTS' GOLFING SOCIETY, at Woodcote Park golf club, Coulsdon, on July 14. Eighteen hole medal competition (bogey 75) won by A. F. Reary (16), 69 net. Runner-up, R. Swindells (14), 74 net. Third, F. Jamieson (10), 75 net.

INQUESTS

Lethal Dose of Aspirins.—At the resumed inquest at Ramsgate recently on Mrs. L. M. Roberts, Malvern Link, whose body had been found in a garden shed at Ramsgate, the coroner said it seemed strange that Mrs. Roberts, after spending a holiday there, should have returned for the express purpose of taking her life, but apparently she had done so, going to the shed with a lethal dose of aspirins.

Too Potent for Child.—At a Manchester inquest recently the deputy city coroner said that people do not always realise the danger in what they consider "just a bottle of medicine." A verdict of death by misadventure was recorded on a three-year-old child who was found dead in bed on June 15. The child's grandfather said he did not think the cough medicine could hurt anybody. A doctor said the child had taken a considerable quantity of the medicine, which was fairly powerful—"easily enough to kill her." The most dangerous drugs, he said, were often the most valuable, but great caution was needed in the amount taken.

TOPICAL REFLECTIONS

By Xrayser

Contractors' Responsibility

Your issue of last week is certainly a "meaty" one for the practising pharmacist. While giving full value to your regular features, such as Business Queries and Essentials of Treatment, I would stress the importance of a careful study of your reports on the Pharmaceutical Committees' Conference (p. 53) and on Hospital Pharmacy (p. 57). Regional conferences arranged by the National Pharmaceutical Union provide opportunities for officers from headquarters to step down into the arena, as it were, of the common commercial world and ascertain at first hand how the National Health Service dispensing machine is kept continuously at work by thousands of individual pharmacists carrying out their daily duties. London conferences go further and give the administration the chance of explaining to contractors official proposals for modifying the existing scheme and of obtaining from them a direct mandate on the important questions at issue. It is part of our democratic way of life that the person who pays—or suffers—should have a fair share in deciding the conditions that are to govern his actions. Pharmacists should realise that they themselves must assume responsibility for the principles adopted and the policies approved.

Resolution and Revelation

The resolution (p. 49) adopted by representatives, embodying a practical basis for bringing about changes in the pricing system, is a good one. It reasserts contractors' claims and suggests reasonable methods by which they might be achieved. Its moderate tone and practical proposals should convince the Ministry that pharmacists have at least a case to which careful consideration deserves to be given. In connection with the suggested inquiry into current dispensing costs, the Central Committee has prepared a questionnaire to be sent to 1,200 contractors. In compiling it they have been assisted by certain experts (accountants and statisticians, I take it) who have visited, I note, pharmacies in London and neighbouring counties. That plan might be usefully extended. Various officers of the Ministry, some administrative and some technical, are concerned with the details of chemists' contracts and in estimating the appropriate remuneration for work done. I suggest that some of them might be invited to witness the various operations carried on in typical pharmacies in, for example, Hackney, Kensington or Lambeth, on a busy rota night during the winter months. Perhaps the extent of what the contractor actually does for his money might thus be more truly revealed.

Racial and Professional Ties

I could not help contrasting the untroubled flow of routine business at the meeting of the Pharmaceutical Society's Council—all of it important and necessary, no doubt, but making, to my mind, rather dull reading—with the animated discussions of vital questions which, I imagine, must have marked recent meetings of the N.P.U. Executive. About half-way through my perusal of your report on p. 59 (the operative word was 'Dinard'), I lost sight of our elected representatives deliberating round the table at Bloomsbury Square, and began to visualise the landing of seventy-five British pharmacists in France. Did any among them feel a stirring of the blood because of their racial relation with the country they visited or the *confrères* they met? It is only 900 years since Norman William came over to alter radically our manner of life and our national characteristics, and the reflective Englishman may still have some regard for that north-west region of France with which so much of his own national history is bound up. The Franco-British Commission is doing excellent work in bringing together in friendly intercourse pharmaceutical practitioners from both sides of the Channel. The success of those meetings, and the mutual award of scholarships, show how firmly established our professional ties have now become.

SOCIETY OF CHEMICAL INDUSTRY

Seventy-third annual meeting

THE Society of Chemical Industry held its 1954 annual meeting—the seventy-third in the series—at Liverpool, July 12-17, under its president, Sir William Ogg, M.A., Ph.D., LL.D. (director of the Rothamsted Experimental Station). The week's programme included meetings, lectures, works visits and social events.

A principal event of the week was the presentation of the Messel medal to Lord Cherwell, C.H., P.C., F.R.S. The medal is awarded every two years to a person who has attained distinc-



Sir William Ogg presents Lord Cherwell with the Messel medal.

tion in "science, literature, industry or public affairs," or who is prominently concerned in the welfare of the Society. Lord Cherwell, the sixteenth recipient, is Professor of Experimental Philosophy at Oxford and personal assistant to the Prime Minister.

Medallist's Lecture

In his Messel memorial lecture, LORD CHERWELL mentioned that chemical exports from Britain had grown from £22 millions in 1938 to £130 millions in 1953. The industry recognised the importance of fundamental research, but was handicapped by a shortage of technologists. Other countries had facilities for technical education, but Britain lacked technological universities. Only in such organisations, where there were departments for all branches of technological control in one place, could proper technological education be given. The United Kingdom must overcome her dislike of that system.

Lord Cherwell said he was not concerned directly in the chemical industry but had done early researches that had influenced the industry. About thirty years ago he had ventured to point out, in connection with the theory of chemical reaction velocities, that the outstanding paradox in the velocity of monomolecular reactions could be circumvented if one accepted the idea of an excited state persisting for a time after a molecular collision. His view had been that the collision produced excited molecules that remained so for a period greater than the interval between collisions. His hypothesis had later been confirmed and carried much further by the observations of Sir Cyril Hinshelwood.

Planck, in deriving his formula on heat radiation, had assumed that energy could be transmitted only in

units proportional to their frequencies. That theory he had translated into the idea of quantum of action. In 1905, Einstein had suggested that, if the derivation of Planck's formula was true, the atomic heat of substances would fall off according to a now well-known formula. Unfortunately, Einstein's formula did not give the whole story. Nernst and the speaker had proposed the addition of a special subharmonic term which enabled their observations to be closely fitted to the formula. Later, Debye had derived a rather more complicated formula which fitted the facts better at very low temperatures.

The world was now entering a new epoch of nuclear chemistry. The rules were known but not the complete system, and the structures of atom and nucleus were still the subject of study. Would the building-up or breaking down of the nucleus play the predominant rôle? The latter would be the determining factor for relatively scarce substances. On much more common substances the former would probably take place, but it was possibly not yet a practical proposition. Would the terrific power now in scientists' hands be used for good or ill?

Industrialists Peacemakers

Some comments of importance touching upon the politics of the chemical industry were made by Dr. Alexander Fleck (chairman, Imperial Chemical Industries, Ltd.) in the course of a toast to the Society at the annual dinner on July 14. DR. FLECK said he did not accept the view that the choice before mankind was one of complete peace or total war. It might be that today the peacemakers were the traders and manufacturers rather than the politicians. In industry they must always look to the changing pattern of production, which was continually subject to the impact of technological change. The chemical industry, said Dr. Fleck, combined the interests of pure science with the interests of sound commerce. It had been a contributory factor in the increase of the real income of the average American by 166 per cent. between 1900 and 1950. The chemical industry must make a continuous endeavour to increase the rate of production. Two things necessary for that were sound technical investment and adequate flow of capital. Today the industry had not a sufficient supply of sound technical men. More and more instrumentation and mechanisation would be called for, and it was a popular misconception that "pure" research was the only worth-while scientific activity. To have the capital it needed, industry must be assured of a sufficiently high level of profits.

Papers read during the week included "Polythene Twenty-one Years after its Discovery," given by DR. E. HUNTER, who said that understanding of the formative reaction had grown with the growth of the general theory of reaction kinetics of vinyl polymerisation; "Sulphur and Sulphuric Acid

from Petroleum," by MR. F. E. HIXON, B.Sc., who said that processes for the production of sulphur and sulphuric acid in refineries had resulted from effluent disposal problems and the world-wide shortage of sulphur; and "Some Contributions of Chemistry to the Winning of Metals," by MR. E. L. DAY, who drew attention to the advances by which the rarer metals, formerly laboratory curiosities, were now commercial products. In "Conventional and Unconventional Features in the Composition of some natural Fats," PROFESSOR T. P. HILDITCH, C.B.E., F.R.S., remarked that the fatty acids which constitute the glycerides of natural fats are remarkably uniform in kind over wide ranges of biological activity. Yet striking, if rare, exceptions occurred in which a single family, or even a single species, gave fats consisting largely of an acid uniquely different from any of the more prevalent and characteristic acids. Linoleic and oleic acids together formed about 80 per cent. of all the seed fatty acids produced in nature, palmitic about 7 or 8 per cent. Some of the rarer acids were characteristic of specific families (e.g., erucic of Cruciferae). The most arresting exceptions were those unique cases where one species in an otherwise "normal" family contained major proportions of a quite unusual acid (e.g., 12, 13-epoxy-oleic acid in fleabane). It was now possible to give estimates of the proportions of glycerides containing one, two or three acyl groups present in a natural fat. Thus, when oleic acid formed 33 per cent. of the total acids, mono-oleo glycerides rose to a maximum of 85 per cent. When oleic acid formed 67 per cent. of the total acids, dioleo glycerides reached a similar maximum. Dioleoglycerides commenced to appear somewhat before the 33 per cent. level of oleic acid and trioleo glycerides before the 67 per cent. level. Mono compounds persisted beyond the 67 per cent. level.

"Recent Chemistry of Phosphine" was dealt with by MR. N. L. PADDOCK, and "Developments in Soapmaking" by E. H. PALMASON, B.Sc. In "Aspects of the Mode of Action of Vitamin A," PROFESSOR R. A. MORTON, F.R.S., considered the biological functions under the groupings of those concerned with vision and those concerned with the maintenance of epithelial tissue. It now seemed clear, he said, that, as an animal approached a state of vitamin-A deficiency, abnormal metabolites accumulated at various parts of the body, particularly the liver: they disappeared when curative doses of the vitamin were given. The systemic mode of action of vitamin A might be to regulate the dehydrogenation of substrates such as sterols. The deficiency syndrome might be due to the accumulation of metabolites, which could themselves act as enzyme inhibitors.

During the week two exhibitions were staged by the general chemicals

division of Imperial Chemical Industries, Ltd. The first was an exhibition of "Safety in Chemical Laboratories." It gave details of the safety organisation in the I.C.I. research department at Widnes. Amongst the items shown were an eyewash solution cabinet with all bottles clearly instructing that irrigation should be carried out for ten minutes; racks to ensure that all gloves are kept where their condition can be

noted; winchester carriers made of polyvinyl chloride, and an emergency shower making it possible to direct water at the point of major contamination. Manufacturers' safety goods were shown as being indicative of a much wider range available. A tilter for pouring liquid air out of large containers avoids a lot of risky lifting, and carriers for carrying solid carbon dioxide avoid risk of burning.

The effect of safety precautions on casualties was demonstrated by a chart showing how the number of accidents steadily fell in the I.C.I. laboratories from eighteen per 100 employees in 1945 to one in 1953.

The second exhibition was "A Hundred Years of the Chemical Industry in Widnes," first shown in 1950, and depicting the story as a fantasy, in a series of transparencies.

LEGAL REPORTS

Summons Dismissed

ALTHOUGH Boots Cash Chemists (Southern), Ltd., entered pleas of guilty at Thames magistrates' court on July 13 to six summonses for illegally selling dispensed medicines containing poisons included in the Poisons List Order, 1953, the responsibility for the offences lay not with the company, but with one of their servants, said prosecuting solicitor. The charges were of selling belladonna alkaloids in a mixture of belladonna and ipecacuanha; selling methadone in a proprietary preparation and selling derivatives of *p*-aminobenzenesulphonamide in proprietary preparations, none of the sales being effected by or under the supervision of a registered pharmacist. The Pharmaceutical Society's solicitor said that, on May 3, the manager of a branch of the company at 19 Market Square, Poplar, London, went on holiday and it was arranged that a locum (a registered pharmacist) should take his place. There was a slip-up, however, and the substitute did not arrive. An inspector who called at the shop found that, in the absence of a pharmacist, an assistant had made up several National Health Service prescriptions that contained poisons. "We know that the defendants do take every precaution," said the Society's solicitor, "and that it is the first time they have ever been summoned for this offence." The magistrate dismissed the first summons on payment of £21 costs. The other five summonses were not separately dealt with.

Nylon Contract Enforced

IN the Chancery Division of the High Court, on July 8, Mr. Justice Danckwerts held that Imperial Chemical Industries, Ltd., were bound to perform a contract of March 5, 1947, to grant a licence to British Nylon Spinners, Ltd., of certain patents, notwithstanding that a United States Court, applying its anti-trust law, had ordered the defendants to reconvey the patents to a United States company. He said that the object of the action was to compel the defendant company to grant the plaintiffs licences of certain British patents they now owned. The contract of March 5, 1947, on which their rights depended was a contract made in England and regulated by English law. The plaintiff company was incorporated on January 1, 1940, to carry out a joint venture of I.C.I. and Courtaulds, Ltd. The patents, now the property of I.C.I., were previously owned by a corporation formed under the laws of Delaware: du Pont de Nemours & Co., Inc. Between that American corporation and I.C.I. there

had been a great measure of co-operation in the development of the inventions to which the patents related. Proceedings were taken in the United States Federal Court against I.C.I. and du Pont which resulted in an order on July 30, 1952. The difficulties in the present case arose out of that order. The defendants had no wish to break their contract with the plaintiffs, but were apprehensive that if they carried it out they would be guilty of a disregard of the terms of the order of the American court and might be involved in penal proceedings in America. The plaintiff company were not a party in those proceedings. It was evident that the United States judge was far from certain that the English courts would accept the validity of his order and he recognised that its provisions would be entirely without effect unless they were accepted and enforced by the English court. His Lordship's conclusion was that, notwithstanding the judgment of the United States Court, the defendants were bound by English law to carry out their agreement of March 5, 1947, and he ought to make the declarations for which the plaintiff company asked and grant specific performance of the contract.

Purchase Tax Offences

PLEADING guilty to eight summonses brought by the Customs and Excise Department—three for recklessly making false purchase tax returns and five for being knowingly concerned in the fraudulent evasion of purchase tax—John Arthur Taylor, toilet preparations wholesaler, 81 Wellington Avenue, Westcliff-on-Sea, was fined a total of £7,473 at Old Street magistrates' court on July 14. He was given a month in which to pay. The defending solicitor had stated that Taylor was offering £3 a week. Announcing the penalties, the magistrate said they amounted to £300 more than the purchase tax involved in the case. For the Customs it was said that on the first three summonses the prosecution was prepared to accept that there was no intent to deceive. Nevertheless Taylor sent the returns in, not caring whether they were accurate or not. There was no doubt that tax totalling about £200 was charged and received by Taylor but not paid over. The remaining five summonses concerned sales by Taylor to an unregistered wholesaler. They were "off-invoice" sales. Taylor had not charged the tax and put it in his pocket. He had not charged it at all. The Court might take the view that it was a less serious case than that of a man pocketing the tax, nevertheless it

was still deliberate fraud. So far as the Customs were concerned, Taylor was a man of hitherto excellent character. In an address in mitigation, defending solicitor recalled that Taylor had joined the Army at the age of seventeen. He served in Burma and upon getting a commission he came out in 1946 with a wife and no trade and spent the first six months trying to find a job. He invested £500 in a wholesale business—he was a traveller for it—but it failed and he was left with no capital and no job. In 1948 he started the present business and eventually managed to make a profit of £600 a year. He was buying a house on a mortgage, he had a daughter aged six and his wife's parents, and he was a sidesman of his church. Taylor had believed the "hard luck" story of the man to whom he had sold the goods. He discussed the proposal with his wife—she was much against it—but, Taylor stated, he was quite "pig-headed" and thought he could help the man without harming himself or anyone else, and he let him have the goods without invoice and purchase tax. Addressing Taylor, the magistrate remarked, "I have paid great attention to everything that has been said on your behalf, and if it is any comfort to you I have not often heard a case put with such candour and attractiveness as your solicitor has put it. I think there is a great deal to be said on your behalf, but you will be the first to appreciate that I have to look to some extent at the hard facts. I don't think, in all the circumstances, there is need, apart from requiring the repayment of all that has not been paid, to put more than an additional burden of £300 upon you."

BUSINESS CHANGES

MR. RALPH CASS, M.P.S., has opened a pharmacy at 184 Westbourne Grove, London, W.11.

THOMAS MARNS, LTD., have removed to Green Lane, Hounslow, Middlesex (telephone: Hounslow 5122).

N.H.S. STATISTICS

IN SHROPSHIRE during 1953-54 the cost of the pharmaceutical services was £211,792.

IN STAFFORDSHIRE during 1953-54, the total cost of the National Health Service was £1,994,077, of which the pharmaceutical services accounted for £663,488.

IN WALLASEY during 1953-54 the total cost of the National Health Service was £324,080.

IN PARLIAMENT

BY A MEMBER OF THE PRESS GALLERY,
HOUSE OF COMMONS

MR. PETER FREEMAN asked the Minister of Health on July 15 if he would make a statement on the case of a patient who died immediately following an injection of vaccine while being treated for asthma in Guy's Hospital recently. In a statement Mr. IAIN MACLEOD (Minister of Health) said that there was no evidence that the vaccine was at fault. As a precaution other vials of the same batch had been recalled by the distributors and tests were being undertaken of the batch of vaccine actually used at Guy's Hospital; up to the present however no significant result had been obtained.

Over-prescribing

MR. PAGE asked the Minister of Health on July 15 the administrative costs of enforcing the recommendations of the Joint Committee on Prescribing and how many doctors had been fined for failing to comply with the committee's recommendations. Miss P. HORNSBY SMITH (Parliamentary secretary to the Ministry of Health) said that the Joint Committee's recommendations were not matters for legal enforcement.

Health Centres

MISS P. HORNSBY SMITH told MR. A. BLENKINSOP on July 15 that eight schemes for health centres had been submitted and approved, including four centres now in operation. Twelve others were under consideration.

Ministry of Materials Ended

THE PRIME MINISTER (Sir Winston Churchill) announced on July 15 that the remaining functions of the Ministry of Materials were being transferred to the Board of Trade on August 16. He said that in the past eighteen months or so the trade in lead, zinc, aluminium, copper, magnesium, sulphur and pyrites had been restored to private hands.

Shops Legislation

LIEUTENANT-COLONEL W. H. BROMLEY DAVENPORT asked the Home Secretary what comments from the various trade organisations had been received by him in connection with the suggested amendment of shops legislation and when was it anticipated that the new legislation would be introduced. SIR DAVID MAXWELL FYFE (Home Secretary) in a written answer on July 15 said that he had received comments from fifty-eight organisations. He could not say when it would be possible to introduce legislation.

Television Bill

In the House of Lords on July 14 EARL JOWITT moved an amendment to the Television Bill to prohibit the advertising of "patent" medicines on any programme. EARL DE LA WARR said that the British Medical Association was completely satisfied with what had been proposed by the Government. The amendment was withdrawn.

The Pharmacy Bill was given its third reading in the House of Lords on July 19 and sent to the House of Commons.

COMPANY NEWS

COOPER, McDOUGALL & ROBERTSON, LTD.—Mr. A. D. Robertson has been appointed a director.

BRITISH INDUSTRIES FAIR, LTD.—Sir Arthur Smout has resigned from the chairmanship of the company. Sir Ernest Goodale has agreed to act as chairman until a permanent appointment is made.

BEECHAM GROUP, LTD.—Subject to audit consolidated trading profit for the year ended March 31 is £3,133,107 (£2,531,518); tax provision, £1,873,061 (£1,563,492); net profit, £1,260,046 (£968,026). Dividend on present deferred capital is being raised to 50 per cent. (40 per cent.) for the year. It is proposed to capitalise £1,850,000 of reserves to write up the nominal value of the deferred shares from 2s. 6d. to 5s.

DRUG HOUSES OF AUSTRALIA EXPORT, LTD.—The names of subsidiary companies are being absorbed in the name of the holding company. New names with old names in parentheses are: Drug Houses of Australia (N.S.W.) Pty., Ltd. (Elliotts & Australian Drug Pty., Ltd.); Drug Houses of Australia (Victoria) Pty., Ltd. (Felton Grimwade & Duerdins Pty., Ltd.); Drug Houses of Australia (Queensland) Pty., Ltd. (Taylors Elliotts Pty., Ltd.); Drug Houses of Australia (Northern Rivers) Pty., Ltd. (Elliott Taylor Pty., Ltd.); Drug Houses of Australia (South Australia), Ltd. (A. M. Bickford & Sons, Ltd.); Drug Houses of Australia (Western Australia), Ltd. (Felton Grimwade & Bickford Pty., Ltd.); and Drug Houses of Australia (Tasmania) Pty., Ltd. (L. Fairthorne & Son Pty., Ltd.).

New Companies

HARRY J. FILSON, LTD. (P.C.).—Capital £1,000. To carry on the business of chemists and druggists, pharmacists, opticians, etc. Directors: H. J. Filson and Mrs. Marlene Filson, 30 Roston Road, Salford, 7. Secretary: H. J. Filson. R.O.: 55 Market Street, Manchester, 1.

GLASGOW CHEMICAL COMPANY (1954), LTD. (P.C.).—Registered in Edinburgh. Capital £5,000. To carry on the business of manufacturers, importers, exporters and merchants of chemical products, etc. Subscribers: L. W. D. Aitchison, A. J. McKechnan, 172 St. Vincent Street, Glasgow. The first directors are to be appointed by the subscribers.

MARRIAGES

CALLCUTT—COUSINS.—At St. Mary's Church, St. Neots, Hunts, on July 13, James Edward Callcutt, M.P.S., 30 Market Square, St. Neots, to Mary Caroline Cousins, Shaftesbury Avenue, St. Neots. Mr. Callcutt is the only son of Mr. E. S. Callcutt, M.P.S.

McINTOSH—STEWART.—At Cardonald Parish Church, Glasgow, on July 10, David Nicoll McIntosh, 24 Parkside Road, Alyth, Perth, to Sheena Stewart, youngest daughter of Mr. James Stewart, M.P.S., 16 Tealing Avenue, Cardonald, Glasgow.

DEATHS

BLAKESLEY.—While on holiday in Sandown, Isle of Wight, on July 12, Mr. Richard A. Blakesley, aged seventy-two. Mr. Blakesley was a representative of Milton Antiseptic, Ltd., and was well known to London chemists on whom he had been calling for thirty-five years on behalf of his company. He is survived by his widow and two daughters.

ELLISON.—Recently, Mr. Denys Marchanton Ellison, F.P.S., 12 Darlington Road, Withington, Manchester, 20. Mr. Ellison passed the Pharmaceutical Chemist examination in 1943.

HALE.—On July 7, Mr. George Leslie Hale, M.P.S., 49 Singleton Avenue, Birkenhead, Ches. Mr. Hale qualified in 1927.

HARPER.—On June 30, Mr. Lesley James Harper, M.P.S., 155 Conway Street, Birkenhead, Ches, aged fifty-five.

HUDSPITH.—On July 19, Mr. Robert Allan Hudspith, M.P.S., Hillgarth, Birches Nook, Stocksfield-on-Tyne, aged fifty-five. Mr. Hudspith was for two years chairman of the Newcastle Northumberland Branch of the Pharmaceutical Society. He was greatly interested in National Pharmaceutical Union affairs and was for many years secretary of the Newcastle and Gateshead Branch. He also played an active part in the Photographic Dealers' Association.

HUMPHREYS.—On July 6, Mr. John Humphreys, M.P.S., 1 West Mall, Clifton, Bristol, 8, aged forty-three.

McLELLAN.—On July 10, Mr. John Young McLellan, M.P.S., Ingrebourne, Willow Avenue, Lenzie, Lanarks. Mr. McLellan qualified in 1934.

SIMS.—On July 14, Mr. William Weden Sims, M.P.S., 33 Nuns Moor Road, Newcastle-upon-Tyne, 4, aged seventy-two. Mr. Sims had been in business on his own for forty-eight years. He retired about eight months ago.

STARKEY.—On July 10, Mr. William Starkey, M.P.S., The Coppice, Wergs Hall Road, The Wergs, Wolverhampton, Staffs. Mr. Starkey qualified in 1916.

WEBB.—On July 4, Mr. Stanley Webb, M.P.S., 57 Burrage Place, London, S.E.18. Mr. Webb qualified in 1914.

WIDOCKS.—Suddenly on July 14 after an emergency operation, Mr. Frederick Widocks, 61 Park Hill Road, Croydon, aged fifty-five. Mr. Widocks was managing director and founder of F. Widocks & Co., Ltd., wholesale distributors, Croydon. He was well known to chemists in the Croydon and surrounding areas and had many connections and friends throughout the country.

WILLIAMSON.—On July 16, Mr. Alfred Williamson, M.P.S., 76 Westbank Road, Birkenhead, Ches, aged sixty-eight.

WILSON.—On July 9, Mr. Daniel Barr Wilson, M.P.S., 18 John Finnie Street, Kilmarnock, Ayrshire. Mr. Wilson qualified in 1920.

TRADE NOTES

Complete Closure Service.—The closure division of United Glass Bottle Manufacturers, Ltd., 8 Leicester Street, London, W.C.2, offers service in designing and producing metal closures.

A Sequel to Food Derationing.—Richard Hudnut, Ltd., Power Rd., London, W.4, are reintroducing their enriched creme shampoo with egg.

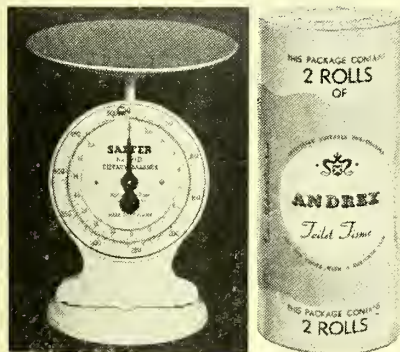


For Counter Displays.—Chappie, Ltd., Melton Mowbray, have produced a crowner for counter display of their product Lassie dog food. A crowner is being sent to any chemist on request to the company.

An Additional Size.—Biorex Laboratories, Ltd., 47 Exmouth Street, London, E.C.1, have made their Biofergate-B tablets (ferrous gluconate, gr. 5; aneurine hydrochloride, 1 mgm.) available in a pack of 100 tablets.

Own-formula Shampoos.—Technical advice in the manufacture of chemists' own shampoos and hair-waving solutions is offered by Taylor Reeson Laboratories, Ltd., 14 Culford Gardens, London, S.W.3.

Individually Tested Teats.—The Modern three-hole teats made by Cannon Rubber Manufacturers, Ltd., Ashley Road, Tottenham, London, N.17, are now individually tested for rate of flow.



Left: New dietary scale (No. 50D) issued by George Salter & Co., Ltd., West Bromwich, for hospital and laboratory use. The balance is fitted with a finger-operated rotating dial for the rapid weighing of several ingredients. The substance to be weighed is placed on the pan until the required weight is reached, and the dial is then rotated until the zero mark is under the pointer, the process being repeated with other ingredients as required, so that the net weight of each can be added quickly and accurately. The balance, finished in white, has a 5½-in. dial graduated 500 x 2 gm. in black and 1 lb. x 2 dr. in red. The aluminium pan is 7½ in. in diameter. Right: Double pack of Andrex toilet tissue on which the makers, St. Andrew Mills, Ltd., 34 St. Andrew Road, London, E.17, are offering a reduction of one penny in the price to the consumer, while leaving the dealer the same actual profit as on two rolls sold separately.

Overseas Specialities in Britain.—Having gathered experience of the distribution in Britain of imported pharmaceutical specialities, Gale & Mount, Ltd., 37 Rothschild Road, London, W.4, distributors of the Philips-Roxane speciality Corasymton, seek one or two additional contacts with foreign manufacturers of similar products with a view to importing and distributing them on the British market.

Trade Marks Transferred.—Except in certain overseas markets, Imperial Chemical Industries, Ltd., disposed of their rights and goodwill in the names Kallodent, Kallodentine and acrylic denture base in bulk to the Dental Manufacturing Co., Ltd., 97 Great Portland Street, London, W.1, on July 1 Messrs. Dental Manufacturing will continue to supply those products to former I.C.I. customers, and will provide technical service similar to that formerly available.



SALES AID: Counter sales frame in which Dr. Scholl's Ball-o-foot cushion (see C. & D., May 22, p. 525) is introduced to customers at chemists' counters.

A Range of Flexible Packages.—The Metal Box Company, Ltd., The Langham, Portland Place, London, W.1, which recently acquired Flexible Packaging, Ltd., Portsmouth, and Brown, Bibby & Gregory, Ltd., Speke, Liverpool, 19, now offer a full range of flexible packages and packaging materials. A newly formed flexible packaging division deals with the products of the Portsmouth factory and the film, foil and paper laminations of the Speke works. Large-scale expansions in both factory space and plant are in progress at both places, and further developments are planned in the wide range of laminations and laminated packages already marketed under the trade names Matalam, Translam, etc., and in multi-colour printing, bag-making and coating with Diothene.



DISPLAY "CROWNER": Crowner introduced by Trufood, Ltd., Green Bank, London, E.1, for their spoonfoods. The grey of the photograph and the white lettering act as a foil to the brightly coloured labels of the jars. The picture identifies the product immediately as an infant food. The new crowner may be obtained either from the company's representatives or direct.

Pharmaceutical Textbooks.—"Bentley's Textbook of Pharmaceutics" and "Aids to Qualitative Pharmaceutical Analysis" are among books published for pharmacists and pharmaceutical students by Baillière, Tindall & Cox, 7 Henrietta Street, London, W.C.2.

Sales Competition.—To familiarise stockists with Sans Egal lipstick (see C. & D., July 3, p. 9) before it goes on sale, Sans Egal International (London), Ltd., 50 Upper Brook Street, London, W.1, are holding a competition with cash prize of £25 and ten consolation prizes of £1 each. Leaflets are now being distributed by the company's representatives in England, Scotland and Northern Ireland with gift samples of the lipstick. After having tested it thoroughly the assistants who receive the sample are asked to enumerate on a free entry form the selling points of the product in order of importance. The competition closes on September 11, and the names of the winners are being announced on September 25.

National Window Display Competition.—Prizes totalling £150 (first prize, £75; second, £50; third, £25) are being awarded in each of three groups—one of them chemists—in a national window display competition organised by Hanovia, Ltd., Slough. The details are being announced to dealers very soon, but it may already be said that the competition will be backed by the greatest advertising campaign ever put out by a manufacturer of ultra-violet or infra-red lamps for domestic purposes. The Press campaign will include insertions in the national and provincial Press, and programmes from Radio Luxembourg at 9 p.m. every Wednesday from September 29 will feature the film and radio star Doris Day. A complete set of new displays and showcards is being made available to dealers; the "Sunshine Means Life" booklet is being redesigned; and a new colour booklet will be issued on September 1.

Tenders Invited.—The British Embassy at Montevideo has notified the Export Services Branch of the Board of Trade, Lacon House, Theobalds

Road, London, W.C.1, that the call for tenders (No. 2323) for the supply of laboratory material issued by the *Administración Nacional de Combustibles, Alcohol y Portland*, has been declared null and void. A second call based on the same tender specifications is being opened on June 23. — The British Embassy at Bogota, Colombia, announces a change has been made in the general conditions relating to calls for tenders issued. The calls will be open for fifteen days only. Successful tenderers will have only four days in which to constitute their 5 per cent. guarantee. Those provisions will, in effect, preclude any United Kingdom firm not at present represented in Colombia from submitting quotations. Telephone calls relating to any of the above matters should be made to Chancery 4411 (Extension 738 or 771).

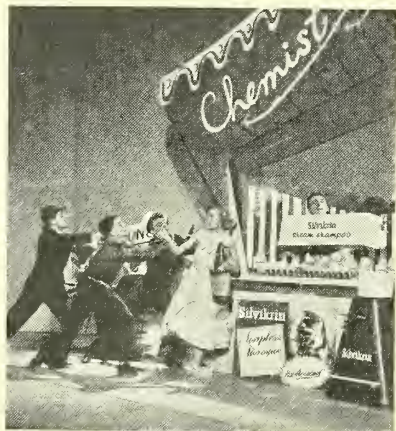
Holiday Closings

Most manufacturers in the trade are closing at their normal week-end closing time in the week prior to Bank Holiday and remaining closed until their normal opening time on Tuesday, August 3.

GLAXO LABORATORIES, LTD., Greenford, Middlesex, are closing for Bank holiday from Friday afternoon, July 30, but are arranging for a skeleton staff to be available from 8.30 a.m. until 12 noon on Saturday, July 31.

POTTER & CLARKE, LTD., River Road, Barking, Essex, are closing for the annual holiday from Thursday afternoon, July 29, until Monday morning, August 16.

THE offices and works of GALE & MOUNT, LTD., 37 Rothschild Road, London, W.4, are closing from July 23 to August 8 inclusive.



ADVERTISING-FILM BALLET: Sheila O'Neill and members of the Sadler's Wells theatre ballet company in a still from the one-minute film "When a Man Notices," produced for the London Press Exchange, Ltd., by Anglo-Scottish Pictures. The film is one of two one-minute advertising films made for Sylvikrin Laboratories, Ltd., to promote their powder, liquid and cream shampoos and due to be shown at the South Bank National Film Theatre July 17 and 24. The occasion will be the first on which British advertising films have been screened at that theatre. They are being included on their merits as representative of current film art. Entitled "Noticing a Girl's Hair" and "When a Man Notices," the two films feature modern ballet routines. Both are in colour.

NEW PRODUCTS AND PACKS

"Pastel" Packs. — Bourjois, Ltd., Queens Road, Croydon, Surrey, are now issuing their Ashes of Violets talc, bath cubes and perfume; Ashes of Roses talc, perfume, solid brilliantine and bath cubes; lavender talc, bath cubes and solid brilliantine; and lavender, Ashes of Violets, Ashes of Carnations and Ashes of Roses toilet soap in new "pastel" packs.

Lightweight Hair Lacquer. — Anita's hair lacquer (lightweight) introduced by Ford Jackson & Co. (Sales), Ltd., 129 Carlton Street, Castleford, Yorks, is formulated to give the degree of rigidity and sheen that current styles demand for ladies' hair. The product is issued in a glass bottle for use in a polythene spray bottle also available from the company. Special additional discounts of 2½, 5 or 7½ per cent., according to quantity, are available for orders value £3 and over placed direct. Smaller quantities are obtainable through wholesalers.

Keeping Insects Away. — A new insect repellent, Kik, based on research by the Geigy organisation, is being presented and made available in this country by Thomas Kerfoot & Co., Ltd., Vale of Bardsley, Lancs. Kik keeps insects away. Applied to exposed skin it is stated to create an im-

visible barrier which the midges neither penetrate nor approach. The product is a clear, non-greasy, practically odourless, non-staining liquid. It is issued in a smart red, white and light blue pack in display outer of 1 doz. cartoned bottles. The bottle carries no conventional label but is embossed on the front with the name Kik and on the reverse with the enlarged representation of a mosquito.

Plastic Wound Dressing. — A new plastic wound dressing, Nobecutane, manufactured in Sweden by A. B. Bofors, is being marketed in this country by Evans Medical Supplies, Ltd., Speke, Liverpool, 19. Nobecutane consists of an acrylic resin dissolved in a mixture of acetic esters. When it is applied to the dry skin the solvent evaporates, leaving an elastic, transparent and adhesive film. The product has the advantages over conventional dressings that it is non-irritating, transparent, tough, pliable and durable, and can be applied over joints where some degree of mobility is required. It is impervious to bacteria but permeable to air and water vapour. It allows the normal aqueous exhalation of the skin to escape. Nobecutane is available to hospitals only, in bottles containing 250 mls.



CANISTER REPLACES CARTON: Canisters in green, blue and red respectively that now replace the bags in which Distafeed riboflavin and vitamin B₁₂ pig and poultry food supplements were formerly issued by the manufacturers, Distillers Co., Ltd., Speke, Liverpool, 19.

INSTRUMENT MAKERS' "NUPTIALS"

Benefits to proprietors and customers

AT a luncheon given in London on July 15 to mark the amalgamation of Griffin & Tatlock, Ltd., and W. & J. George & Becker, Ltd. (C. & D., July 3, p. 6), THE CHAIRMAN (Mr. R. McKinnon Wood, O.B.E., M.A., F.R.Ae.S. (chairman of the new company, Griffin & George, Ltd.)) said that a "wedding had been arranged and would shortly take place." Tracing the history of the two companies, he mentioned Griffin's "chemical museum" established in Glasgow in 1826. The Griffins had earlier commenced business as booksellers and publishers. Joseph Griffin wrote a book, "Chemical Recreations," and that had stimulated demand for apparatus. John Joseph Griffin had been included by George Smith in his "Dictionary of National Biography." He had studied in Paris and Heidelberg, and moved to London in 1848. When he died at the age of seventy-six he left the business (John Joseph Griffin & Sons) to his sons Charles and Walter. After precisely a century the association with Glasgow was re-established through an

amalgamation with John Tatlock. Although the George & Becker company was less ancient, it too had a respectable ancestry, Becker, Ltd., having been founded in 1872.

The present amalgamation was going to be beneficial to the proprietors, to all who worked in the company, and to all whom it served. The company was engaged in an industry that entailed high overheads. Catalogues, their shop window, were an expensive item. Research and development, also expensive, had to be covered by a large volume of production.

MR. A. J. PHILPOTT (director, Scientific Instrument Manufacturers' Association of Great Britain, Ltd.) as guest speaker said that the history of the two firms showed the change from the classical and simple to the modern and complicated.

A committee that had investigated the scientific instruments industry had decided that there were too many firms making too many instruments. Some degree of amalgamation was essential.

PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND

Monthly Meeting of Council

A MEETING of the Council of the Pharmaceutical Society of Northern Ireland was held in Belfast on July 16, the president (Mr. W. H. Boyd) in the chair. Also present were Messrs. W. P. Ewart (vice-president), J. Irwin (treasurer), S. E. Campbell, H. J. Cousley, H. H. Cowzer, J. McGregor, H. F. Moore, C. A. Quinn, P. R. W. Shinner, W. C. Tate, Professor E. B. C. Mayrs, and Professor J. Small, D.Sc. Apologies for absence were received from Messrs. H. P. Crossin, H. W. Gamble and F. R. Moore. The secretary (Mr. W. Gorman) was in attendance.

THE PRESIDENT said it would be the wish of the Council that a message of congratulations should be sent to Mr. Horatio Todd (first president of the Society) on being awarded the O.B.E. He also expressed the thanks of the Council to Professor Small who on his forthcoming retirement from the Chair of Botany would be ceasing to represent Queen's University, Belfast, on the Council.

A letter was received from the Pakistan Pharmaceutical Conference inviting the Society to send a delegation to its first meeting being held in Karachi in November. It was decided to reply regretting that that was not possible, and to supply information requested by the Conference.

The Northern Ireland branch of the British Medical Association wrote requesting the use of the Society's premises during the coming winter owing to the delay in the completion of rebuilding work at the Whitla Medical Institute. It was agreed that the request should be acceded to.

Examiners' Report

The Council considered the report of the Board of Examiners on the June examinations. That stated that in the Preliminary Scientific, Part I, 118 students entered, twenty-seven passed, sixty-three failed, twelve were referred in biology, seven in chemistry, seven in physics, and two were absent. In the Final Qualifying, Part II, fifty-four entered, one being absent, and twenty-nine passed, thirteen failed, three were referred in pharmaceuticals and eight in chemistry. THE SECRETARY said the number of entrants for Part I was so large that two extra days had to be taken. Under the new regulations (see *C. & D.*, April 17, p. 407) the Board recommended that a number of students should be required to take a course of study in one or more subjects. THE PRESIDENT said it was evident from the results that some candidates for Part I were ill-prepared but the results in Part II were much better.

Replying to Mr. Shinner, who asked whether employers would have to give further hours off to those taking further courses of study, THE PRESIDENT said that the revision courses at the Belfast College of Technology were held in the evenings and the question of time off did not arise. The courses would allow candidates to sit again in December but in the case of some Part I students with a limited number of times of entry it might be advisable for them to wait another year. MR. EWART said some difficulties might arise for students in country areas where evening revision classes were not held. When it was suggested that the recommendation by the Board should be referred to the Education Committee, THE PRESIDENT pointed out that the students concerned must be informed without delay. The position could be reviewed when the new Regulations had been in operation for a longer period. The very large influx of students to pharmacy had raised numerous problems, including those of accommodation, and it could not yet be judged whether the efforts to regulate the entry would be adequate.

The Certificate of Apprenticeship was granted to Mr.

Norman William Smyth who was stated to have graduated as B.Sc. in pharmaceuticals at Queen's University, Belfast.

THE PRESIDENT said it had been agreed that the annual dinner-dance held by the Society should now be under the auspices of the Chemists' Benevolent Fund.

On the motion of Mr. Tate, seconded by Mr. McGregor, the seal of the Society was affixed to the certificates of the candidates successful at the final examination. The Gold Medal was presented to Mr. George Henry Duke, of Bleary, Portadown. Mr. J. A. M. Shaw attended and presented the prize which he gave for pharmacognosy to Mr. J. H. S. Allen, Cookstown. A prize for pharmaceuticals offered by the Associates' Section, Ulster Chemists' Association, was presented by the chairman (Mr. G. E. McIlhagger) to Mr. James Webb, Belfast. The Associates' Section's prize for physics was awarded to Mr. William J. Barnes, Cookstown.

CONGRATULATIONS to the Pharmaceutical Society of Ireland

At the July Council meeting of the Pharmaceutical Society of Ireland (see following page), a number of letters were read expressing appreciation of the recent official opening of the Society's college (see *C. & D.*, June 26, p. 640). MR. W. G. FOX (secretary, Cork Guild of Pharmacy) wrote: It was a very memorable occasion which was thoroughly enjoyed by our four officers. We wish the college, the Pharmaceutical Society and the registrar every success. THE SECRETARY, DEPARTMENT OF HEALTH, wrote: We are very grateful for your appreciation of the assistance which you have received from the Department, and trust that the co-operation which has hitherto existed between the Department and the Society will be continued in the future. I should also like to take this opportunity of wishing the Society every success in its headquarters. MR. W. MULLEN (on behalf of the Irish Medical Exhibitors' Association) wrote: The amount of work involved in organising such a successful and enjoyable function must be tremendous, and you certainly have every reason to feel very proud. Wishing you and your Council many years of happiness in your new home. . . .

MR. C. A. COLLIS (captain of the Irish Chemists' Golfing Society) wrote: I wish to offer my congratulations for one of the most enjoyable and successful functions in the history of pharmacy—that which marked the opening of the new college of pharmacy. Representing the Irish Chemists' Golfing Society I felt highly honoured as the guest of the Pharmaceutical Society of Ireland, and thought of the part that the Golfing Society has played in fostering that good fellowship among pharmacists, which was so pre-eminent among the patrons at the opening ceremony. MR. PHILIP FAHEY (secretary of the Golfing Society) sending a cheque of £5 5s. for the Benevolent Fund wrote: I take this opportunity of congratulating all concerned in organising the recent official opening of the college on a most successful and memorable event. MR. and MRS. W. HANLEY, 108 O'Connell Street, Limerick, sending congratulations observed: It was well worth going to Dublin for the occasion. MR. D. P. MCHUGH, The Medical Hall, Athy, wrote: I have just got back my film of the garden party and it is very successful.

THE PRESIDENT said he would like to express the Council's thanks to Messrs. Brendan O'Sullivan (chairman of the Official Opening Committee), Donal Kennelly, Hugh Corrigan, and the registrar for the great work they put into

organising the function. He also thanked Mr. Fred Robinson, whose brilliant idea it was that a garden party should be held, and the official reporter for his assistance with the Press. MR. ROBINSON said he would like to associate himself with the president's tribute to the Official Opening Committee for the wonderful work they had done.

MR. O'NEILL paid a tribute to the president. The Council felt proud of the way in which the president with his gracious wife carried through a difficult task with such dignity and ability. It was a great credit to the president and reflected honour on the whole Council. In paying tribute to others the strain the president was under must not be forgotten.

MR. MCGRATH said he also would like to be associated with the tributes paid to the organising committee. He was

glad Mr. O'Neill mentioned the president, because he never felt so proud as he did on that occasion, at the way in which the president carried out his functions. MR. O'ROURKE thought the function was one of the best ever held by Irish pharmacy. MR. MCKANE said unfortunately he was unable to be present, but the accounts he heard of the function from those who came from the West were of the highest praise.

MR. O'SULLIVAN returning thanks on behalf of the organising committee said he was very happy that the function was such a success. In thanking those who attended he particularly wished to thank the Editor of THE CHEMIST AND DRUGGIST (Mr. Owen H. Waller) and Mrs. Waller, and the Publisher (Mr. Shepherd) and Mrs. Shepherd for coming over for the occasion.

PHARMACEUTICAL SOCIETY OF IRELAND

Monthly Meeting of Council

A MEETING of the Council of the Pharmaceutical Society of Ireland was held in Dublin on July 13, Mr. M. Costello (president) in the chair. Other members of Council present were Messrs. P. F. McGrath (vice-president), H. P. Corrigan (treasurer), G. C. O'Neill, N. A. McKane, T. B. O'Sullivan, P. Brooke-Kelly, F. J. Robinson, J. A. O'Rourke, D. J. Kennelly, A. A. Toher, P. Fullam, J. Gleeson, T. C. Scott, and C. J. Cremen. Mr. J. G. Coleman (registrar) was in attendance.

Before the business on the agenda was taken, THE PRESIDENT introduced to members of the Council Mr. Gerald Nolan, Brisbane, Australia, who was on visit with a large pilgrimage party from Queensland. Mr. Nolan, who takes an active part in pharmaceutical affairs in Australia, is a member of the council of the Pharmaceutical Society of Queensland and a member of the State Branch Committee of the Queensland Branch of the Guild. Welcoming Mr. Nolan on behalf of the Council, THE PRESIDENT said that the Council was glad to have a visit from a pharmacist of such standing in his own country both on the professional and guild side in Australia. Mr. Nolan, whose grandparents had come from Ireland, had given them, during lunch, a full and informative account of health legislation in Australia, and how it operated in relation to pharmacy. It was an extraordinary coincidence to find that pharmacists "down under" faced much the same problems as pharmacists in Ireland. The organisation of pharmacy in Australia was so good that no State or Government could interfere with the *status quo* there.

MR. NOLAN, expressing his thanks for the welcome accorded to him, said he felt at home in that Council chamber meeting Irish colleagues. He trusted that the body of Irish pharmacists appreciated what was being done for them by the men who gave their time to the work of the Council. In Australia the Society looked after the education of the coming pharmacists, while the Guild, which was the "fighting body," looked after merchandising. When he returned he would collect as much data as possible on the Health Scheme in Australia and send it along for the information of Council members dealing with that matter. The Scheme in his country was very good to pharmacy, and he would like to do all he could to assist Irish pharmacists to get similar treatment in their country (applause). Mr. Nolan, who had been taken over the Society's College, then withdrew.

Arising out of the minutes of the June Council meeting (see *C. & D.*, June 19, p. 622), the question of appointing an inspector, who would be a licentiate of the Society, was again discussed. When MR. MCKANE expressed the view that the usefulness of such an inspector would end in about two years, after he had become known, MR. MCGRATH pointed out that so far as members and licentiates were concerned the inspector would be acting in an advisory capacity. The fact of having such an official would be a

tremendous help. MR. TOHER said that the idea of having such an adviser should not be allowed to drop. THE PRESIDENT said the idea was to get members' reactions to such an appointment. Already one letter had been received from the Donegal Chemists' Association supporting such an appointment. There was no intention of letting the matter drop. MR. BROOKE-KELLY said that time was too short to get reactions from the country, and advocated waiting a little longer. He was in favour of some type of inspector. MR. MCKANE said there was great dissatisfaction amongst chemists over abuses of the poison law. THE PRESIDENT agreed and said there would be plenty to do for an inspector in dealing with such abuses among non-chemist shopkeepers and creameries in the country. The Council, the president added, would like to have the views of local associations and individual chemists on the matter.

It was agreed to defer taking further action until October.

Visitors were appointed to the July Licence examinations.

The reports of the House, Schools, Law, and Certificates and Declarations Committees were submitted and approved. A report was received from the examiners to the first professional examination.

THE REGISTRAR reported on the deaths of Michael John Leahy, M.P.S.I., and Patrick Stephen Lalor, M.P.S.I. (see *C. & D.*, July 17, p. 55).

The following changes of address were notified:—

Messrs. Charles A. Roche, M.P.S.I., to Maplebury, Seafield Avenue, Monkstown, co. Dublin; Richard Kearney, L.P.S.I., to 5 Main Street, Clondalkin, co. Dublin; James F. O'Dowd, L.P.S.I., to 69 Upper George's Street, Dun Laoghaire, co. Dublin; and Joseph Anthony McKeown, L.P.S.I., to 847 Romford Road, Manor Park, London, E.12.

THE REGISTRAR reported that fifty-nine candidates had entered for Part I of the July Licence examination, and sixty for Part II, including four for the Dispensing Chemist and Druggist examination.

MR. PATRICK MCGEE (secretary of the Donegal Chemists' Association) wrote: I am pleased to inform you that the Donegal County Council at its meeting on June 28 left one seat on the Consultative Health Council to be filled by a chemist nominated by the Donegal Chemists' Association. As you are aware my Association has been working on this matter for a considerable time. At a meeting of the Association on July 7 I was nominated, and I hope that I will be capable of fulfilling the trust placed in me.

THE PRESIDENT commented that both Mr. McGee and the Donegal Association should be complimented.

When attention was drawn to recent correspondence in the daily Press on the question of reciprocity for Irish pharmacists with other countries, THE REGISTRAR pointed out that under the provisions of the Pharmacy Act of 1875 only those who had passed the Licence examination of the Society could be placed on the Society's Register. Licentiates of the Apothecaries' Hall were dealt with in a pre-

amble to the Act, because they were in existence prior to the passing of the 1875 Act. The people who wrote to the newspapers saying that the Council were responsible for the present position were misinformed. Amending or new legislation would be necessary to change the position. The Council had an understanding with other countries such as Australia, New Zealand, and Canada, which were prepared to accept the Society's certificate, but that was purely a gesture of goodwill.

The licence certificates of Messrs. Malachy Brendan Quinn and John Charles Travers were signed and sealed.

The following were nominated for membership: Messrs. James F. O'Dowd, 69 Upper George's Street, Dun Laoghaire, co. Dublin; Richard Kearney, 5 Main Street, Clondalkin, co. Dublin; John W. O'Farrell, 4 South Hill, Dartry, Dublin; John C. Travers, 9 Windsor Road, Rathmines, Dublin; Michael Power, Kilfinane, co. Limerick; and James Keane, 28 Annamoe Road, Dublin.

Miss Una Swanton and Messrs. Adrian Van Bergen and Liam Enda Horan were elected members of the Society.

At question time MR. GLEESON drew attention to a leader which had appeared in a Dublin evening newspaper,

and to which he said he took strong exception, since it was derogatory to the professional status and honour of pharmacy. When Mr. Gleeson read the leader THE PRESIDENT and members of the Council agreed that the editor of the paper should be communicated with. The editorial which appeared on July 10 included this passage: "We think that it is only in English-speaking countries that the term chemist is applied generally to what should properly be called pharmacist or apothecary. The chemist toils and researches at his bench, or in his laboratory, without prominence or publicity. He has made possible by his research work the trade of the pharmacists. If the work of the chemist has made the trade of the pharmacist possible his appellation should not be applied to the latter."

MR. O'ROURKE pointed out that it was the work of pharmaceutical chemists that made possible the manufacture of many products on the market today, and THE REGISTRAR said that reference to "the trade of the pharmacist" would be resented by many.

At a meeting of the Benevolent Fund Committee held at the conclusion of the Council meeting some grants were passed for payment.

CORRESPONDENCE

Letters when received must bear the name and address of the sender, not necessarily for publication. The Editor does not hold himself responsible for the views expressed.

RETIREMENT OF MR. H. B. MACKIE

SIR,—In view of Mr. Mackie's retirement from the headship of the school of pharmacy at Brighton, I feel sure that many of his former students would desire to mark the occasion in some way. As his senior assistant I have claimed the privilege of taking the initiative and have consulted a few old students who consider that a reunion dinner in London, probably about the end of September, would afford the greatest pleasure to everyone. A personal letter is being sent to all old students before the end of this month, but if anyone is accidentally omitted I hope he or she will write to me at the Technical College, Brighton, marking the envelope with the code letters "M.R.D." BRIGHTON, 7

E. R. PARKEN

MORPHINE MANUFACTURE IN BRITAIN

SIR,—Dr. Bett's most interesting article on "The Discovery of Morphine" (C. & D., July 19, p. 63) shows up the uncertainty as to the true discoverer and the date of the discovery of this drug. To F. W. A. Sertürner is usually ascribed the honour of the discovery, and it is fairly certain that he first recognised the alkaline nature of morphine and opened the door to alkaloidal chemistry. It may interest your readers to know how the manufacture of morphine was first undertaken in this country. In 1831, William Gregory, M.D., F.C.S. (1803-58), son of James Gregory of Gregory's powder fame, devised and published a process for the production of pure morphine hydrochloride which enabled a dose to be prescribed at a cost no greater than that of an equivalent dose of laudanum.¹ On the direction of J. F. Macfarlan, from whom my company takes its name, David Rennie Brown adopted that process for manufacture on a commercial scale and actual manufacture by the company began in 1833.

BOREHAM WOOD

D. RAINY BROWN

¹Gregory, Wm. *Edin. Med. and Surg. J.*, 1831. 35. 331.

COSTING FOR DOCTORS

SIR,—The chairman of the Shropshire Executive Council is reported as saying (C. & D., July 17, p. 50) that only by making doctors cost-conscious will the cost of the N.H.S. drug bill be brought down to a reasonable level. Could not the Minister of Health get a bit tougher with the doctors—as he appears to have been doing lately with the chemists—and impose more stringent conditions to make them realise that it is they who set the pace for the rate of expenditure on drugs? If it is indeed the prescribing of proprietaries that swells the drug bill then excesses might be more fully controlled by requiring doctors to write their prescriptions for all those of particularly high cost

on a form of special colour, as distinct from the "white" form EC10. In the early days of National Health Insurance, forms of different colours were in use. Doctors would doubtless object to the extra trouble involved, but—now that it is suggested chemists should do considerably more sorting of their bundles—is it not time that doctors were asked to co-operate a little more in making pricing and checking operations easier? Chemists are required to do more irksome things than carry two kinds of prescriptions forms! This simple procedure, involving the selection of a special form on each occasion that a proprietary of high cost is ordered, would keep the prescriber continually mindful of the cost of the treatment he selects, and would go far to check the issue of unnecessarily expensive prescriptions.

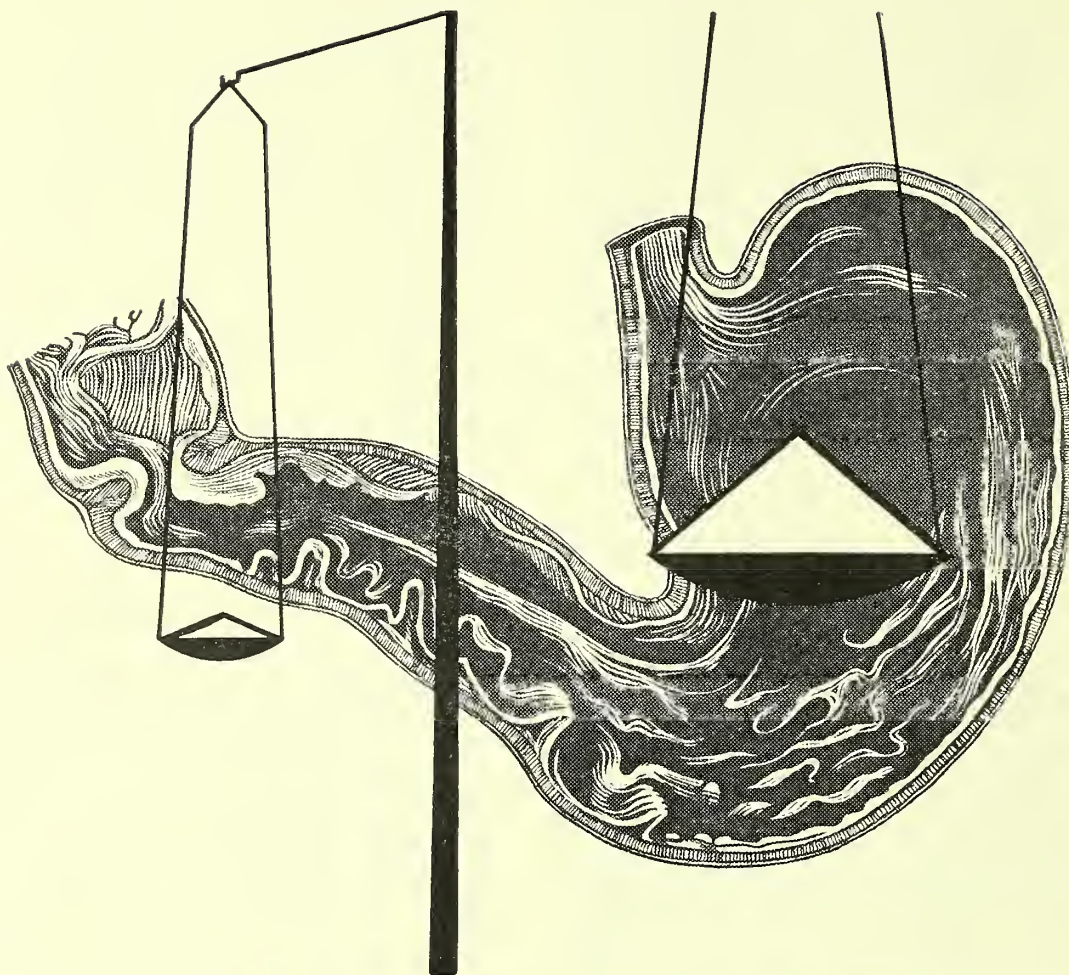
COMMITTEEMAN

MOISTURE CONTENT OF PENICILLIN TABLETS

SIR,—Your issue of March 6 contained a report of my address to the Birmingham Pharmaceutical Association on February 9 in which I gave information obtained from the manufacturers on the stability of penicillin oral tablets. Some of those manufacturers have since written to me on two points which I think should be published to make this information more complete. The first point relates to the method of determining moisture content, figures for which were given by manufacturers "A," "E," "G" and "H." To obtain those figures, manufacturers "A," "E" and "G" determined moisture by either (i) drying over P₂O₅ to constant weight; (ii) heating at 100°C. *in vacuo* to constant weight; or (iii) heating at 110°C. for six hours. Those methods determine free or mechanically entrained moisture, but not combined moisture due to the water of crystallisation of excipients such as lactose. Manufacturer "H," however, used the Karl Fischer method, and therefore determined both free and combined moisture. Since the excipient in the tablets tested by manufacturer "H" accounted for 2.4 per cent. of combined moisture, the free moisture did not exceed 0.6 per cent. during the ninety-seven weeks of the test. Towards the end of my address I mentioned that the American Code of Federal Regulations allowed a shelf life of thirty-six months for benzylpenicillin oral tablets with a moisture content of not more than 1 per cent. Since the regulations require moisture to be determined by drying at 60°C. in a vacuum oven, the specified limit refers to free moisture. The second point was made by manufacturer "E," who emphasised that the figures I quoted were obtained on experimental tablets with abnormally high moisture contents, and did not refer to the firm's normal production.

LONDON, W.1

H. DAVIS, *Chief Pharmacist,*
MINISTRY OF HEALTH



A POTENT STARCH-DIGESTING ENZYME

TAKA-DIASTASE, a potent starch-digesting enzyme, is capable of liquefying 300 times its own weight of cooked starch in conditions found in the normal stomach. As a digestive agent, either alone or combined with insoluble carbonates and aromatics for correcting hyperacidity, it is unsurpassed for the treatment of gastric discomfort.

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Training Students for What ?

THE keynote of pharmaceutical education today appears to be the encouragement of academic achievement and the prolongation of time spent in academic studies by increasing the scope of the Qualifying examination syllabus at the expense of practical training. Such a policy, while designed to raise the status of the profession, tends to lose sight of the fact that the Pharmaceutical Chemist Qualifying examination is primarily designed to fit the examinee to "keep open shop." The course for the degree of Bachelor of Pharmacy has a different end in view—to prepare the student for more academic employment. The fact that the Society appears to be encouraging students to qualify as pharmaceutical chemists via the degree course is already creating a topheaviness in pharmaceutical education. That observation, moreover, takes no account of possible differences that arise between persons who have obtained their qualification after university graduation, and may therefore feel themselves academically superior, and those who feel that they have qualified "the hard way," with two or more years' practical training to their credit. The present trend may result, too, in a failure on the part of the newly qualified to identify themselves with older members of the profession, due to a tendency to lose sight of the value of experience compared with book-knowledge. The dwindling importance attached in the present regulations to the period of practical training provides a popular bone of contention. The choice between a two-year pre-graduate and one-year post-graduate training appears to be less of a choice than an inducement to postpone such training. While, from the student's point of view, there may be an advantage in not breaking the thread between academic training and achievement, it is not always an advantage to the employer, who may find himself asked to provide "training" for a student who fails to appreciate the value of his mentor's experience. If that happens, then the word "training" becomes a mockery. Whatever the point of view of instructors in educational institutions may be, most proprietor chemists would contend that the old apprenticeship system is of great value. The argument that apprenticeship is a form of cheap labour can hardly prevail today, when even an untrained counter-assistant can command a salary comparable with that of his pre-war qualified counterpart. It is questionable too, whether, from a disciplinary point of view, a system that dispenses with articles of pupilage and allows the trainee to move from one place of

training to another of his own volition can accurately be described as "training."

Dangerous Days for Shop Tenants

EVERY quarter day there are to be found traders who, by neglecting the simple precautions they have been advised to take, are compelled to leave premises in which they may have carried on their business for years. Many find themselves without alternative premises and without compensation to mitigate the loss. In due course measures now before Parliament will bring a modicum of relief to shop tenants, but the new law cannot be expected to come into force much before the end of the year.

In the meantime, therefore, tenant traders should take advantage of their statutory rights under the Landlord and Tenant Act, 1927 (soon to lapse) and Leasehold Property (Temporary Provisions) Acts, 1951 and 1953. Acts of Parliament only help those who help themselves. If their benefits are to be obtained, the tenant must take the steps he is enjoined to take. If he does not, he will find that his landlord is demanding possession and that he has no right to continue in occupation of his premises after the tenancy has ended, whether it is one that expires automatically by effluxion of time, or is terminated by notice to quit. If he has built up a valuable goodwill, the benefit of his labours passes to his landlord, who can take advantage of it by securing a much higher rent or price.

To prevent that the tenant, if he is one whose tenancy expires automatically, may, under the Landlord and Tenant Act, 1927, obtain compensation for goodwill or a renewal of the tenancy for a maximum period of fourteen years, provided he has at least twelve months before the expiry of the tenancy, served a notice of his claim for a new lease or for compensation or commenced proceedings for a new lease (if that is being claimed), at least nine months before the date of expiry.

Some tenants may still be able to safeguard their position under the Leasehold (Temporary Provisions) Acts and obtain an extension of tenancy of not more than one year. For that purpose they must commence proceedings in the county court, claiming an extension at least one month before the tenancy is due to expire. In the majority of cases, extensions are easily obtained. Having once obtained the extension, the tenant may find further relief from the new Landlord and Tenant Act when it comes into force. The trader whose tenancy is being terminated by notice to quit has still one month in which to act once the notice has been served. After that month has elapsed, he will otherwise have no right whatsoever under the Acts mentioned. He should immediately serve his landlord with notice claiming a new lease under the Act of 1927, as well as compensation for goodwill, the amount of which must be stated in the notice. At the same time, he must commence proceedings in the county court within the month, claiming an extension under the Leasehold Property Acts. Furthermore he must, after the first month has expired, but before the end of the second month commence proceedings, also in the county court, this time under the Landlord and Tenant Act, 1927, claiming a new lease and alternatively, compensation for goodwill. The two sets of proceedings can run side by side, though the Landlord and Tenant Act, 1927, proceedings may be stayed pending the results of the

Leasehold Property Act proceedings, or *vice versa*. In general in such cases, the tenant will find that his landlord is willing to come to terms and to grant him a new lease. That is a valuable bargaining power, which the tenant would not have enjoyed if he had failed to take those comparatively simple steps to safeguard his position.

"Urgent" Prescriptions

A COMPLAINT received by Wolverhampton Executive Council about a difficulty experienced by a local resident in getting an "urgent" prescription dispensed (see *C. & D.*, June 26, p. 638) is the most recent to be recorded. While it is intolerable that there should be any delay in providing medicine for those patients whose suffering would be aggravated or prevented from improving by their inability to obtain medicine when it is urgently needed, the remedy is not, as many members of the public appear to assume, longer hours of work for every pharmacist. A national twenty-four-hour pharmaceutical service is out of the question. In most cases where a medicine is required urgently at an awkward hour the doctor can supply from his own stock. Indeed, he is required to hold stocks for such purposes. In rare cases the services of a pharmaceutical chemist may be imperative, but it must be seldom that none can be contacted if necessary by reference to the police. Legally, of course, the pharmacist is only required to dispense National Health Service prescriptions "at all reasonable times."

The notice on the reverse of EC10 forms:—

Medicines urgently required may be obtained outside normal hours if a prescription is marked "urgent" by a doctor, ought to reduce unnecessary calls upon a chemist, and certainly ensures that, with any prescription so marked, he gets special remuneration. But how many pharmacists have had such prescriptions to send in to the pricing bureaux? More commonly the experience is of being called upon after contract hours, if at all, for a prescription that is obviously urgent but not so marked, or for a prescription that is clearly not urgent and could have been held over until next day.

However, the recurrence of public complaints of the kind referred to does point to a likelihood that sooner or later the demand for some greater certainty of getting a prescription dispensed after hours will become too insistent to be overlooked. Already, it appears to us, the multiples have here and there reaped the advantage that accrues to an all-night service by draining away from the private man some of the dispensing that would otherwise have been his. Sooner or later the choice may be between doing nothing and witnessing an extension of all-night or late-night pharmacies by the multiples, organising voluntarily an extension of rotas into a late-night service provided in separate premises maintained jointly by the contractors in an area, or being forced by the authorities into longer contract hours. No chemist wants the last. As between the other two, there can be little doubt which is preferable.

Insecticides Containing DDT

ATTENTION is drawn to property rights in DDT. An announcement issued by the Geigy Co., Ltd., Manchester, points out that the manufacture of insecticidal aqueous emulsions, solid preparations and solutions containing DDT forms the subject of British patents Nos. 547,871; 547,874 and 644,895. The use of DDT

for the manufacture of such compositions by the methods claimed in the patents would, unless authorised by the patentee, be an infringement. So would the sale and use of compositions so manufactured.

Insecticidal preparations containing DDT and compounded under a licensing arrangement involve, of course, no infringement. In cases of doubt it is recommended that there should be consultation with one or other of the following companies, all holding licence agreements in this country.

THE GEIGY CO., LTD., Rhodes, Middleton, Manchester.
W. J. BUSH & CO., LTD., Ash Grove, Hackney, London, E.8.
COCKER CHEMICAL CO., LTD., Oswaldtwistle, Lancs.
HICKSON & WELCH, LTD., Ings Lane, Castleford, Yorks.

Onward from Galen A CURRENT CAUSERIE

AT one time British industrialists were accused of taking too much out of industry and not putting enough back into the business. Whatever force that view may have had as applied to the chemical industry, it was very obvious to those who went on some of the excursions to works that formed part of the programme of the annual meetings of the Society of Chemical Industry (p. 76) that much overhauling of plant had been and was still going on. Old processes were seen "treated" to new plant and vessels, old layouts being streamlined, and above all, impressive, and in some instances, immensely costly new installations coming into production. The works were, of course, in the Liverpool area, which is the home of "heavy" chemicals, but the improved efficiency that the changes must bring about, and the new chemicals made commercially available in quantity, cannot but react favourably in due course on the pharmaceutical and fine chemicals sections of the industry. There may be cause for sentimental regret at the passing of some of the old craftsman-made vessels and the lapse of some of the old skills, but few can seriously argue for their continuance in the modern era of instrumentation and continuous-production (instead of batch-production) processes. Not the least advantage of the new methods is that they make chemical works much pleasanter places to work in and chemical towns much pleasanter places to live in, with fewer fumes, less heat, fewer slag heaps. One hopes the museum authorities are on the look out for treasures thrown out in this gigantic spring cleaning. What is to happen, for example, to an eighty-year-old loom that is only now going out of use for the making, at one of the factories visited, of coir mats for use in filter presses?



Is it a compliment to or a slur on Professor T. P. Hilditch, C.B.E., F.R.S., that at Liverpool University, where for so many years, as professor of oils and fats chemistry, he gained distinction for his university and for himself, the chair in that subject has lapsed on his retirement? One cannot but speculate whether the seam has been worked out, or whether no scholar can be found worthy to succeed him. Certainly he was unique in synthesising industrial experience, business acumen, flair for research and breadth of outlook in a single personality. But surely his numerous contributions to knowledge, so many of them given practical applications in industry, have only opened up a route that holds promise of still further discoveries.

INFORMATION WANTED

The Editor would appreciate information about suppliers of the following items:

CHINAROD
Seaweed in gauze bags for rheumatism
READIWEAR
PIVETONE
MYCURLING

Provision and Cost of DRUGS AND MEDICINES under the early Poor Law

By LAURENCE DOPSON

"Oct. 23, 1753—To a woman with 4 children verey noisey 0 1 0¹.

THAT extract from the poor law expenditure of the parish of Cheam in Surrey has no direct bearing on chemists and druggists, but it serves as a characteristic introduction to the records of the overseers of the poor and churchwardens which are a little used but valuable source of the history of pharmacy in this country, for they give the prices paid for medicines. For instance, elsewhere in the Cheam rate book there is the entry: "Ap 24, 1748. Paid for Phisick for Jupp girl 0 1 0." They also indicate the type and form of drugs that were being supplied in the 17th and 18th centuries.

The Statute that was the basis of the English poor law for 300 years was the famous Act of 1601 (42 Eliz. I; c. 2). The office of overseer of the poor was in fact formally created by an earlier Act—in 1572 (14 Eliz. I, c. 5)—and the office was probably even older. The overseer may have originated as collector of parochial alms. The office of churchwarden is known to have existed in the 14th century; the duties of the office were associated with the maintenance and repair of the church fabric.³ By Section 1 of the Elizabethan Poor Law Act of 1601, the churchwardens and "four, three or two substantial housekeepers" were to be nominated each year as overseers of the poor. They had to levy and secure poor rates and dispense poor relief. The Poor Law Amendment Act of 1834 (4 & 5 Wm. IV, c. 76) took away the administration of relief from the churchwardens and overseers of the poor, but the latter office survived until 1927, chiefly as the assessor of parish rates.^{4 5}

What is not always realised is that the old Poor Law provided an early form of National Health Service, and the records of the churchwardens and overseers of the poor contain numerous references to payments for medicines. In the parish chest of East Pennard, Somerset, for instance, there is the following bill:

1783.	The Overseer E: Pennard	
	Dr. to John Grant	
July 28th	Strengthening Cerecloth cloth and camphorated Embrocation for Mary Linthoms Childs Thigh and Journey	4 6
Oct: 9th	A Saline Mixture for Bob Nichols's Wife	2 6
Nov: 6th	To Internal Medicines for himself and Journey	6 0
1784		
Jan. 13th	Pectoral powders, Balsamic Drops, and Traumatic Mixture for James Linthom	4 6
		0 17 6

"Pectoral" was the name given to medicines for the relief of chest conditions (see, for example, the advertisement for Woodhouse's Balsam of Spermaceti "Pectoral Cough Drops" in *Robson's Commercial Directory of London*, 1840, which was for constitutional coughs, Hoping and Chin Coughs, and the most violent Consumptive Cough—"persons doubting the efficacy of this Medicine may take a dose in the Proprietors' shop before they purchase"). Although it is not possible to be certain, it is probable that the 4s. 6d. represented cost of treating a person suffering from tuberculosis.

There are a number of bills for medicines supplied in the parish documents of Lindfield in Sussex.⁶ One, undated, is for drugs supplied about 1665:

A Cordiall loosening Drinke against the Jaundice	0 1 0
A Julep against the fitte & a thinge to Smell two a little Cordial against fainting	0 1 6
blister plasters and salve	0 0 6
a Comfortable Julep	10
two pills for rest & to stay gripings	0 1 6
	0 0 4

In 1698 there is reference to "A large bottle of divers potions for Stoppedg. in Stom."

Other bills show the type of pharmacy practised, and the payments, in the following century:

Medcins Exhibited by me John Weller to ye Poor of the Parish of Lindfield in the year 1705 Richard Sayers his Bill on ye part Goodman Durrant	
May 5th Spirits 3 ounces	00 03 00
May 30th Repeat 1 once & $\frac{1}{2}$	00 01 06
July 3th [sic] again dit	00 01 00
Aug. 5th dit	00 01 06
Sept. 3rd Iterum	00 01 06
Total	00 09 00

William Blunden, junior	
June 9th	
Cordial Tinctur and Saffr drops	00 03 06
laudan drops	00 01 06
Purgin medicin	00 01 06
Total	00 06 06

Thomas Parson his wife May 1st Junior	
Medicins Exhibd as Cordiall languorb Tincturs Purses powders ye	Total
Aug.	00 06 07
Thomas Davy his daughter pills and spirits	Total is
	00 03 06
	the whole sum
	02 04 10

Reced the full contents of this Bill by me John Weller.

One can only speculate what was the cause in the 6d. fall in the price of the spirits for the first patient between May and July; the price was restored in August.

Another bill in the collection mentions "a Julip, a thing to smell two and a plaster on other Julip," for 1s. 6d.; "1 purginge pille," 1s. 3d.; and "powder to put in her beere," 6d. Two further bills are dated:

6th June 1723	Dr. Weller Deceased
To the Son of Goodm. Tomset	0 1 7
To a Vomiting Potion	0 2 1
An Elixir or Fever drops	0 1 7
Three Doses of pills	0 1 6
To a Cordial Julip	0 6 9

For Medicines exhibited by me Jno. Weller since ye death of my Father.

26th Nov. 1723	
To 18 doses of powders and 6 doses of pills	0 8 0
To an Oyntment	0 1 6
A purging Potion for ye Child	0 1 0
7th Jany. 1723-4	
A vomiting Potion and Tincture to Dame Comber	0 3 6
Sum	1 5 5

Nineteenth century bills for drugs and medicines are among the overseers records of Oakley, Bedford, details of which were kindly provided by the Assistant Archivist, Bed-

ford County Record Office (Miss P. L. Hull). They include a series of accounts owing to Gregory and McGarth. In 1808 those gentlemen were charging the overseers 2s. 9d. for liniment, 2s. 6d. for bark powders, and 1s. for "simple ointment." In 1809, 2s. 9d. was charged in respect of each of the three items—diuretic mixture, cordial mixture, and pectoral mixture, whilst a mercurial plaster cost 1s. 6d. and aperient powders 3s.

The following account was owing to Gregory and McGarth in 1812:

	s.	d.
Febrifuge mixture	2	9
Purging Pills	1	6
6 Hemlock Pills	1	6
Anodyne Draughts	1	3
Bark Mixture	2	9
Drops for the Ears	1	6
Pitch Plaster	2	6

It would appear that Messrs. Gregory and McGarth were surgeons; they charged 1 gn. "To Reducing a Fractured Arm" in 1816, and included on the same bill 2s. for a "Strengthening plaster for loins." Adhesive plaster cost, in 1817, 1s.; other items in this Gregory and McGarth bill are "alterative pills," 2s.; "a purging bolus," 1s., and "acid drops," 3s.

Lower Scale of Charges

Details of an account owing to another supplier, Jn. Payne, in 1822, indicate a rather lower scale of charges. Thus whilst an emetic was 2s. 6d., "2 powders" were only sixpence and two draughts 1s. 6d.; "bottle drops" was 1s. and "box pills" also 1s. Eight boluses were 2s., and "bleeding" was 1s. The present pharmacist at St. George's Hospital may care to note that Messrs. Martin and Raynes, Surgeons, put in an account in 1832 for 1s. 6d. for leeches.

Local healers, particularly women, were often employed by the overseers, and some quotations are given by Vicars Bell in his *Little Gaddesden: The Story of an English Parish*:

1698 Pd to Widoe Tudor for curing James Groom's leg 5 0
1735 Pd Gammr Puttenham for Medicine for Jo Morris 8 0

Mr. Bell, in that admirable study of a Hertfordshire village, reproduces the following:

Master Wilsden's Bill 1798

I have drest master Wilsden hand 2 ce a day for 4 weeks which now thank God it is comfortable well only weak for is accident was a very severe one his daughter wish me to inform you my charg is one shilling a day for the materials that I used for his hand which amounts to one pound 8 shillings. I hop the gentleman will consider to give me som small matter for my trouble for it took a great deal of my time every Day.

Your Humble servant,
F. Sergeant.

There must be some medical significance in the following entry in the overseers' accounts for East Coker, Somerset, now in the Somerset Record Office, Taunton, and placed at the author's disposal by Mr. Donald L. Mirams, of that office:

1817 19 Mar. 2lb Treacle at 5½d and ¼lb Brimstone 1 3

Another entry in these accounts is "Biscuit for sick," which cost 2d. on 3 August, 1815, the year of Waterloo. But the most curious entry is the following:

1814 23 Sept. 1 quart Train oil 1 8

That appears to have been a regular purchase at that time in East Coker.

In a paper on "Aspects of Poor Law Administration, Seventeenth to Nineteenth Centuries, from Trull Overseers' Accounts" in the *Proceedings of the Somerset Archaeological Society*,⁸ Mr. I. Fitzroy Jones devotes a section to medical attention. In 1707 Mr. Haysome was paid 4s. 10d. for physic for Smith's child; in 1748 "a salve for Huses legg when the waggon ran over" cost 3d.; in 1752 Ann Glass was supplied with a bottle of Eli [?] elixir for 1s. 3d.—"a bottle of Dafys Elixir cost 1s. 3d. in 1746," explains Mr.

Jones, "and is probably the same medicine." Apothecaries' bills occur between 1749 and 1755, the annual amounts varying from 6s. 5d. to £2 5s. 6d. [But those bills do not specify actual items.] The overseers supplied appliances as well as medicines. In 1804 a body belt for Dymond cost 7s.; in 1816 a elastic truss for William Govier cost 16s. And in 1830 wine for Robert Daw's family was supplied for 3s. 8d.

The Potton overseers-of-the-poor accounts, now in Bedford County Record Office, contain an item in 1689 "for carrying ye widow Triploe to ye Mountebank." In 1724 there is an entry:

Paid Mr. Rugely for cureing Harper's hand."

It is known that G. Rugeley was an apothecary in Potton about that time. The employment of a parish doctor with an annual fee at Trull seems to have been started in 1785 at an emolument of 4 guineas; the amount was increased in 1797 to 5 guineas.

That the parish doctor would have to provide medicines at an inclusive rate is shown by the resolutions in the vestry book of Churchstanton, a village in the Blackdown Hills which was formerly in the county of Devon but is now in Somerset. Mr. E. F. Berry, an authority on the history of the parish, sends me this extract:

March 26, 1821

It is also agreed at a vestry that Mr. James Rich shall receive Seven Pounds for the said ensuing year, for attending the poor of the aforesaid parish for Surgery, Phisic and attending the poor thereof and midwifery in difficult cases:

Rev. R. P. Clarke
James Rich, Thomas Coombe,
David Barton.

William Dommett Churchwarden.

In 1825 the fee was raised to eight guineas. In 1826 it was 10 gns. In 1831 the agreement was in the following form:

At a vestry meeting held this day (and adjourned by the unanimous Consent of the Meeting to Churchinford) It is agreed that Mr. Rich Shall receive Eleven Pounds for the ensuing year for attending the poor of this parish. For all Surgery, Phisic, and attending the Poor thereof and Midwifery in difficult cases, saving and excepting in cases of venereal diseases. And that he be allowed two Pounds for attending James Ackland and his wife in the above excepted disease for the Past Year.

Revnd R. P. Clarke Chairman
George Rich for James Rich.

No False Humility

The doctors of olden time, one may note in passing, were not tied by false humility or restricted by professional etiquette, as shown by an amusing letter from Dr. Pass of Timperley to the Overseers of the Poor of Astbury, in Cheshire. It is dated November 6, 1757, and is recorded in the National Register of Archives:

"I Docter Pass have Ann Shewood under cuere of her hand which shee come to mee by your orders and I can by the blessing of God make a perfect cuere in time. When shee came to me shee was so bad of the hand that for some time I thought shee should have lost the hand but she tould mee that you orderd her to come ouer in a months time that you might look at her hand but I dar not lett her come ouer for getting could butt shee may come ouer in about a months time butt shee is taking ffisek now I desienc a line from under youer hands from wom I should be paid for the cuer and if you have any dengers cueres under any docters that they think uncureble I by the blessing of God dar under take the cuers

from yr frend docter Pass "

The Poor Law Amendment Act of 1834 altered the old system, which had become abused, of extensive out-relief. It established Unions of parishes for the provision of work-houses. The "welfare state" of the late 18th and early 19th centuries was overtaken by the much more stringent "New Poor Law" against which Dickens made onslaughts with his pen. The type of records of the new administra-

tion are set out in *A Handlist of the Records of the Boards of Guardians in the County of Somerset preserved in the Somerset Record Office, Taunton*, published by the County Council in 1949. No longer are there the homely references to the provision of particular medicines.

- ¹ Marshall, Charles J. "The Rate Book of the Parish of Cheam, 1750-53," *Surrey Archaeological Collections*, XLVII, p. 67.
- ² Marshall, Charles J. *A History of the Old Villages of Cheam and Sutton* (Cheam, 1936), p. 75.
- ³ Tate, W. E. *The Parish Chest* (Cambridge, 1951), p. 29.
- ⁴ Bonham-Carter, Victor. *The English Village* (Harmondsworth, 1952).
- ⁵ For a summary of the development of the Poor Law, particularly so far as it affects parish records, see Tate, above.
- ⁶ Scott, G. Forrester. "The Country Doctor in the 17th and 18th Centuries," *Sussex County Magazine*, X, p. 325.
- ⁷ Bell, Vicars. *Little Gaddesden: The Story of an English Parish* (London) p. 82.
- ⁸ Jones, I. Fitzroy. "Aspects of Poor Law Administration, Seventeenth to Nineteenth Centuries, from Trull Overseers' Accounts," *Proceedings of the Somersetshire Archaeological and Natural History Society*, XCV, p. 72.

NEW BOOKS

The Royal Society of Arts, 1754-1954

DEREK HUDSON and KENNETH W. LONGHURST. *John Murray*, Albemarle Street, London, W.1. 8½ x 5½ in. Pp. 411. 30s.

DESIGNED to mark the bicentenary of the Society, celebrated earlier in the year (*C. & D.*, March 20, p. 298), the book tells of the Society's story from the early days of Reynolds and Dr. Johnson, when it sponsored Britain's earliest art and industrial exhibitions; sketches the contributions of the Society to the promotion of scientific knowledge; and comes down to modern times with the creation of the distinction R.D.I. for industrial designers. The story is entertainingly written, amply and aptly illustrated, and supplemented with informative appendices. The Duke of Edinburgh contributes a foreword, and the Earl of Radnor an introduction.

Progress in Organic Chemistry

J. W. COOK, D.Sc., F.R.S. (editor). *Butterworths Scientific Publications*, 88 Kingsway, London, W.C.2. 9¼ x 6 in. Vol. 1. Pp. 287. 50s. Vol. 2. Pp. 212. 42s.

THE two volumes comprise eight and six articles respectively, contributed mainly by British organic chemists from industry and from the universities. Their purpose is to provide concise but adequate information on recent advances in organic chemistry. The subjects chosen are those considered likely to appeal to all classes of organic chemists. In Vol. 1 there are articles on "Molecular Structure of Strychnine, Brucine and Vomocine" and "Drugs Inhibiting Symptomatic Stimulators," and in Vol. 2 "Partial Synthesis of Cortisone and Related Compounds from Accessible Sources." Other articles deal with the chemistry of pyridine and petroleum, etc. The books are intended primarily for research workers and advanced students, and each article is followed by a liberal list of references to original literature. Each volume includes a subject index.

Chemotherapy of Infections

H. O. J. COLLIER, B.A., PH.D., M.I.BOL. *Chapman & Hall, Ltd.*, 37 Essex Street, London, W.C.2. 7¼ x 5½ in. Pp. 248. 18s.

THE interest of this book to pharmacists is enhanced by the fact that its author is the chief pharmacologist of a well known manufacturing house. He has adopted and used a technique that might well be employed by more experts writing on their favourite subjects—that of raising the technical level of writing as the book proceeds. The work begins with an exposition of fundamental principles in which the relationship between man, microbe and chemical therapeutic agent is explained. After further chapters on such fundamentals as bodily defence to microbial attack, development of drug resistance, theories of drug action, it draws attention to specific drugs and the chemotherapy of certain maladies. The main emphasis is on penicillin, streptomycin and other antibiotics and on the sulphonamides. There are a foreword by Sir Alexander Fleming, subject and author indexes, fifty-three illustrations and twenty-one tables.

BRITISH FINE CHEMICALS AND THEIR USES

13. MAGNESIUM SULPHATE

MAGNESIUM sulphate is largely recovered from kieserite deposits in various parts of the world, and by treatment of dolomite with sulphuric acid. With kieserite, which is sparingly soluble, the chlorides are separated by washing, and the magnesium sulphate is purified by recrystallisation from hot water. Amongst a number of patented methods, magnesium-bearing materials are subjected to the action of sulphur dioxide, atmospheric air, and moisture, to form the sulphite and sulphate, from which the soluble sulphate is separated from the insoluble sulphite. By oxidation the sulphite in turn is converted to sulphate to acquire maximum reclamation.

In the medicinal field the salt is a mild purgative used in portal congestion, chronic constipation, inflammatory affections, and in congestion of the brain, etc. It is a common ingredient of aperient mineral waters. Externally, it lessens the pain, and prevents the extension of cellulitis and crystals. Wet dressings of a 25 per cent. solution or the more familiar paste are used in the treatment of carbuncles and boils.

Magnesium sulphate is employed in the preparation of potassium sulphate and barium sulphate, for dressing cotton fabrics, for whitening wool, and for weighting silk and paper, and by the textile industry generally. It is incorporated in a number of different spinning bath compositions for producing synthetic fibres. Other uses include: as a fertiliser; for fireproofing purposes; in the ceramic industries; and in the match-making industry.

The more crude commercial varieties of magnesium sulphate are liable to contain minute amounts of arsenic and phosphorus, besides traces of base metals, and sodium. Ordinary commercial varieties, which may be more or less free from those impurities, frequently contain quite a large proportion of magnesium chloride. Although the pure salt is obtained in colourless rhombic prisms, the commercial salt quite often has a grey appearance.

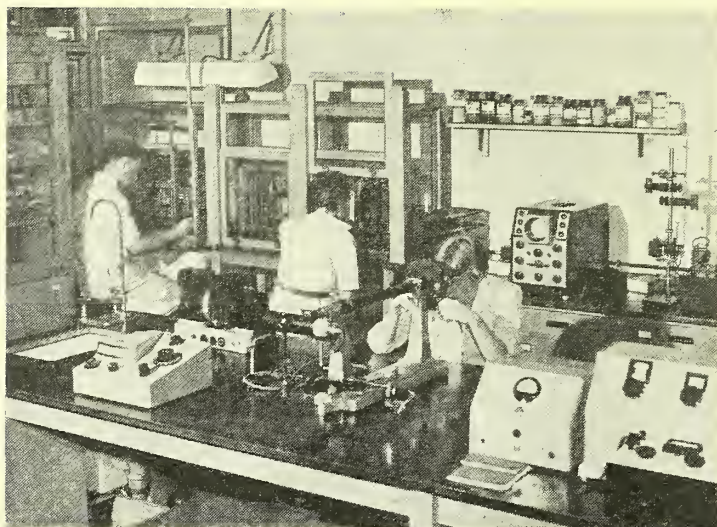
The crystals are not unlike those of Glauber's salts and strongly resemble those of zinc sulphate. They are distinguished from Glauber's salts by the method of adding ammonia, ammonium chloride and sodium phosphate, which gives a crystalline precipitate of the magnesium salt, and from zinc sulphate by adding ammonium sulphide, which produces a characteristic white precipitate if zinc is present. Pure magnesium sulphate should be entirely free from sodium salts, and when ignited on a platinum wire should give no evidence of a yellow flame. The aqueous solution of the salt, 1 in 10, must be entirely clear and transparent, and exert no influence on litmus paper.

CONFIDENCE DRUG

TO many a frustrated man
Adrift upon his way,
The prey of doubts and baseless fears,
Throughout the weary day,
The journalists now loud extol
The charms of methylpentynol.
To beard the lion in his den,
The dentist at his chair;
To woo the stern examiner,
To win the smiling fair,
We need but take, if tales be true,
The carbinol in capsules blue.

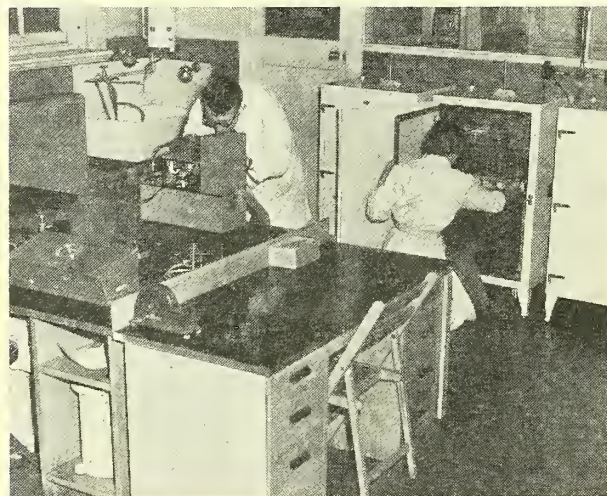
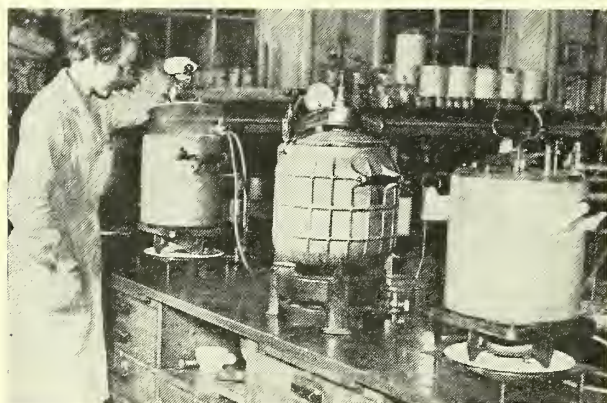
To exorcise the nightmare qualms
That haunt the hour of sleep
We swallow capsules now, in place
Of counting silly sheep.
(Though butobarbitone, they say,
Will live to fight another day).

The triple bond may yet achieve
One greater triumph still;
When methylpentynol the place
Of honour takes, to fill
With confident diplomacy
The Staff Side, Whitley Council C!



A LONDON CENTRE OF PHARMACEUTICAL EDUCATION

THE SCHOOL OF PHARMACY
AT CHELSEA POLYTECHNIC

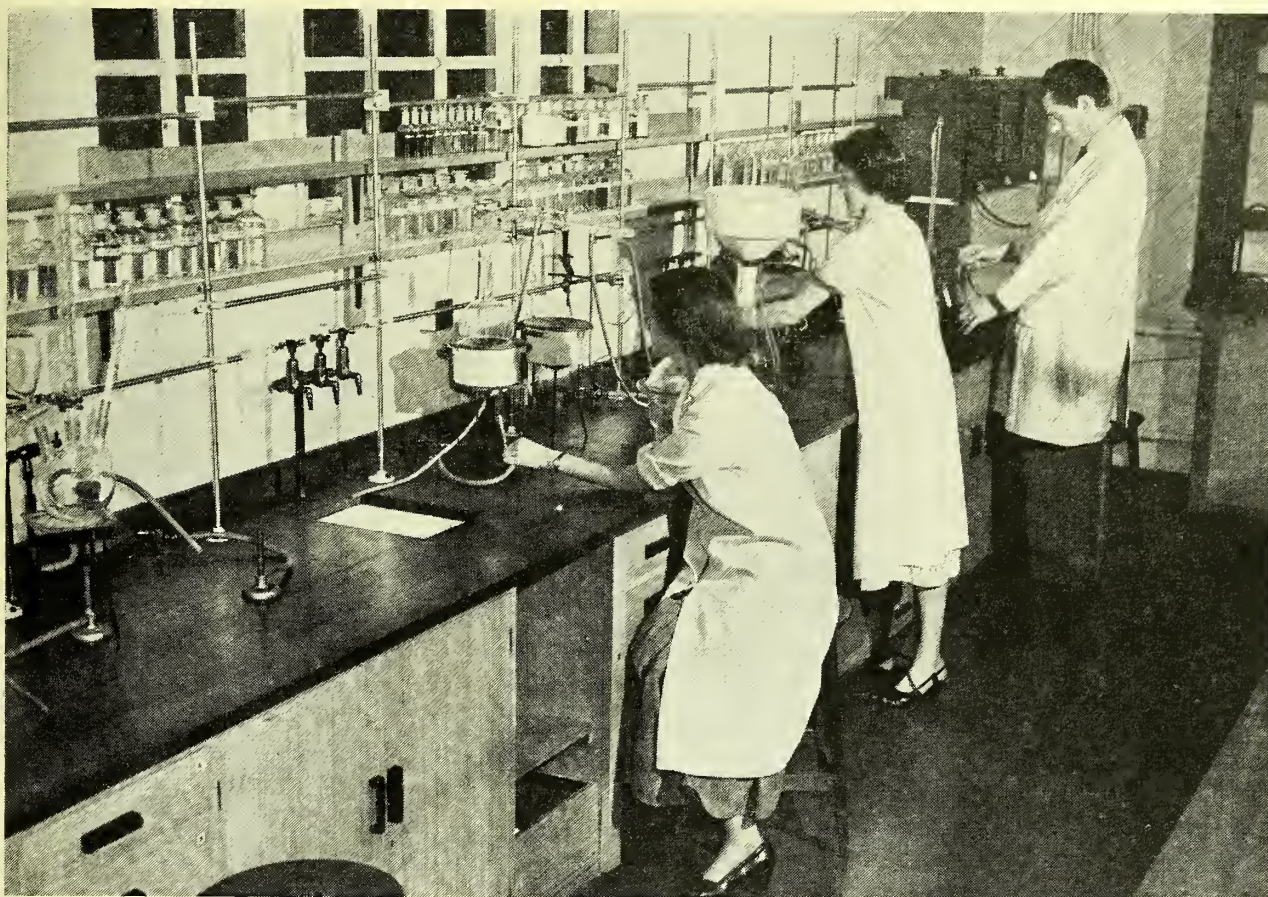


An aseptic laboratory and (above) part of the main pharmaceuticals laboratory. Top of page: Third-year chemistry research (left) and galenical (right) laboratories.

THE school of pharmacy at Chelsea Polytechnic, London, S.W.3, claims to be the largest of its kind in Britain. Set as it is in a district of London known for its cosmopolitan population, the school attracts students from all over the United Kingdom and from all parts of the world. The student from London or the provinces may find himself working alongside a Chinese, a turbaned Indian, an African or perhaps a graduate from an American University. Full-time day courses are held in preparation for the Pharmaceutical Society's Qualifying examination and for the degree of Bachelor of Pharmacy of the University of London. Of the school's annual intake of ninety-six students (seventy-two for the Pharmaceutical Society's Qualifying examination and twenty-four for the degree course) approximately 40 per cent. are women. Though housed mainly in the basement of the building, the school of pharmacy is spacious and well equipped, and air-conditioning adds to the comfort of the students. In addition to store and lecture rooms there are five laboratories devoted to pharmaceutical chemistry, five (including two aseptic laboratories) to pharmaceutics, and a general laboratory and an advanced and research laboratory for pharmacognosy.

The main pharmaceutics laboratory serves a dual purpose, twenty-four students at one end being engaged in mastering dispensing technique, while at the other, twenty-four more are gaining experience in the making of galenicals. Emphasis is laid on familiarising the student with different designs of the same apparatus, so that if he is required to handle apparatus elsewhere he will not meet with a pattern with which he is unfamiliar. For example, no two in a row of autoclaves ranged along one bench are of precisely the same pattern. Preparation of galenicals at the school is organised according to a card-index system, the names of B.P. and B.P.C. preparations being entered each on a separate card from which the student can select examples from which to work, according to a pre-arranged plan, until the syllabus has been covered.

The general pharmacognosy laboratory, presided over by Mr. L. Harrod (senior lecturer in pharmacognosy), houses an extensive museum of crude drugs and other materials of pharmaceutical interest, while the student has access to the large collection of books and periodicals in the Polytechnic's general reference library as well as the laboratory



The new laboratory for advanced organic work.

and reference books kept in the library of the school of pharmacy itself.

The newer of the two aseptic laboratories provides accommodation for twelve students to work at one time at individual places where aseptic screens and individual refuse bins are provided. Scrupulous cleanliness is observed in carrying out all operations. The benches are topped with ebonite, several large incubators are provided for bacteriological work, and the student has the opportunity of using unusual apparatus, such as the colony illuminator for viewing bacteriological cultures, made by Dr. L. Harris (lecturer in pharmaceuticals and bacteriology), and the Casella slit sampler for measuring the pollution of the air by microbes.

In the third-year galenical laboratory a variety of apparatus is assembled for the use of the more advanced students. A high-vacuum pump for drying bacteriological cultures enables the school to manufacture those for its own use. A du Noüy apparatus for measuring surface tension is used for investigating the efficiency of emulgents, and there are an electrically-operated ointment mill and a Manesty single-stroke tablet machine, also electrically operated.

Two well-equipped chemistry laboratories, presided over by Dr. A. H. Beckett (senior lecturer in pharmaceutical chemistry), each provide accommodation for twenty-four students, while an imposing row of twenty-four modern delicately-adjusted balances stands in a small room adjacent. Dr. Beckett's greatest pride, however, is the new laboratory for advanced organic work, recently provided at a cost of nearly £3,000 by joint subscription from the Pharmaceutical Society and from industry. That laboratory is used also by research students, so that the advanced pharmaceutical students are brought into close contact with research techniques in the final stages of their work. That is part of the policy of the Chelsea school of pharmacy,

where the student interested in research work is given every facility and encouragement. Special modifications are provided in the form of simple working models for students of apparatus for spectrophotometric and polarographic work, and various types of pH meters and d.c. amplifiers are in use. Research carried out in the final pharmaceutical and chemical research laboratories covers synthetic analgesics and their antagonists, antibacterials and their mechanism of action, and work on natural products, while upstairs in the department of physiology, presided over by Dr. M. F. Lockett, research is in progress in pharmacology and physiology, and a part-time course of studies may be pursued for an honours degree in those two subjects. Research scholarships recently gained by students from Chelsea Polytechnic include the Wellcome pharmaceutical research scholarship, 1953-54, won by Miss R. Mrosowska, B.Pharm. (Hons.), and the Pharmaceutical Society's research scholarship for 1953-55 won by Mr. K. A. Kerridge, B.Pharm. The Fairchild scholarship, the Manchester Pharmaceutical Association scholarship and the Leverhulme scholarships, awarded by the Council of the Pharmaceutical Society, are tenable at the school, and scholarships and studentships are also awarded subject to certain conditions by the governing body of the Polytechnic.

On the lighter side ample sports and recreational facilities are provided. A pharmacy association, open to all past and present students, has the object of promoting the general welfare of students of the school. During the session evening meetings are held periodically, and tours of local pharmaceutical factories are arranged, as well as socials, dances and reunions. The Polytechnic has numerous athletic clubs, including football, cricket, tennis, hockey, rowing, fencing and badminton, and there are musical, literary and other societies. On the sports ground at Merton, Surrey, the students of the school of pharmacy are said to distinguish themselves as effectively as in their academic studies.

HOW AND WHERE TO QUALIFY AS A PHARMACEUTICAL CHEMIST

WITH OTHER INFORMATION USEFUL TO
INTENDING ENTRANTS TO THE CRAFT

A PHARMACEUTICAL CHEMIST is, in England, Scotland and Wales, a person who has passed the Qualifying examination of the Pharmaceutical Society of Great Britain and has been admitted to a register which the Council of the Society is charged by Statute to maintain.

Pharmacy may also be studied at certain universities, but the holder of a degree in pharmacy is not necessarily a pharmaceutical chemist. Many, in fact, are not. A pharmacy graduate obtains exemption from all the examinations of the Pharmaceutical Society except the examination in forensic pharmacy, which he must pass in order to secure registration.

Before he may even sit for the Society's Qualifying examination the entrant must have reached a certain standard of general education and have complied with certain other requirements.

The evidence demanded of the student that he has reached the necessary level of general education is that he holds (a) the General Certificate of Education at ordinary or advanced level in English and mathematics and three other subjects passed at one sitting or four other subjects at two sittings; or (b) the London Matriculation certificate or (c) in Scotland the Leaving certificate. Any young man or woman in possession of one of those certificates may, on payment of £4 4s. to the Society's registrar, become registered as a student of pharmacy.

After registration, the student undergoes a course of academic instruction and practical training, together occupying about four or five years. The period ordinarily commences with a full-time course of three terms in chemistry, physics and biology at an institution approved by the Society for that purpose. When he has completed the course the student may enter for the Society's Intermediate examination. Should, however, his General Certificate of Education be at advanced level, and provided he has passed in the three subjects named at not more than two sittings, he is granted exemption from the Intermediate examination.

The successful examinee in either category takes a further course of two full-time sessions of three terms each in an institution approved by the Society for the purpose of training for the Pharmaceutical Chemist Qualifying examination. The five subjects of that examination are pharmaceutical chemistry, pharmacognosy, physiology and pharmacology, and forensic pharmacy.

Even after he has satisfied the examiners, the successful candidate is still not entitled to become registered as a pharmaceutical chemist until his academic instruction has been supplemented with a course of practical training in a retail pharmacy, hospital or manufacturing laboratory (which must also have had the approval of the Pharmaceutical Society). He may serve the apprenticeship before taking the Qualifying examination, in which case it is of two years' duration, or afterwards when one year is enough. The apprenticeship may be served all in one place, or divided between two or more places.

Equally with the student who takes the Society's examination, the pharmacy graduate must undergo the required practical training in an approved shop, laboratory or department. Without registration, no university graduate, however advanced his academic studies may be, may "keep open shop" in pharmacy or accept a post as a hospital pharmacist, though many graduates, of course, have no wish to do so because they intend to make their career in a laboratory, in manufacture, or in an academic post. By whichever route a student qualifies as a pharmaceutical chemist, whether by taking or by securing exemption from the Society's examinations, he is still not admitted to the register unless or until he has reached the age of twenty-one.

Scope of Each Subject

As has been said, the subjects of the Qualifying examination are pharmaceutical chemistry, pharmaceuticals, pharmacognosy (in broad terms the recognition of drugs), physiology and pharmacology (action of drugs) and forensic pharmacy. The syllabuses of study are as approved by the Privy Council on March 4, 1954. They are:—

Pharmaceutical Chemistry

The examination in this subject comprises two written sessions, each of three hours' duration, and one practical session of six hours' duration. The examiners are not precluded from asking candidates oral questions during the practical sessions.

The candidate will be required to have a knowledge of the following:—The principles of physical chemistry treated in an elementary manner mainly with reference to their pharmaceutical application. The general principles of inorganic chemistry based upon the characteristics of the elements and compounds shown by the

periodic relationships and an elementary treatment of valency and the electronic structure of their atoms. An elementary treatment of atomic structure, isotopes, nuclear chemistry, natural and induced radioactivity. A general knowledge of organic chemistry, with particular reference to substances in frequent use in pharmacy. A knowledge of the structure, nomenclature and chemical properties of pharmaceutical importance of the following and such of their derivatives as are in the British Pharmacopœia:—Diphenyl ethane, triphenyl methane, naphthalene, anthracene, furan, pyrole, thiazole, pyrazole, imidazole, pyridine, quinoline, isoquinoline, acridine. The structure of phenanthrene. Chemical synthesis by means of the more important reagents. A knowledge of the chemistry of the following groups of medicinal organic compounds:—Sulphonamides, barbiturates, arsenical compounds, local anaesthetics. The general constitution and properties of the fixed oils, fats and waxes of the British Pharmacopœia. The principles involved in the estimation of the oxygenated constituents of essential oils. A knowledge of the structure and simple chemical properties of terpineol, limonene, carvone, menthol and camphor. The general methods employed for the extraction of alkaloids and the methods employed for the elucidation of their structure. The preparation and structure of uric acid, caffeine, theobromine and theophylline. A knowledge of the properties of pharmaceutical importance of vitamins and hormones of the British Pharmacopœia. The general chemistry of the carbohydrates, with a knowledge of the structure, excluding stereo-chemical considerations of glucose and methyl-glucosides, fructose, sucrose, lactose, salicin. An elementary knowledge of the classification and general characteristics of the proteins and of essential amino acids and their relationship to proteins. The principles of analysis as exemplified by the determinations and processes indicated in the practical syllabus.

PRACTICAL

Volumetric analysis. Gravimetric analysis. The quantitative determination of an alkaloid in acid or alcoholic solution. The determination of the acid, saponification and iodine values of fixed oils and fats. The determination of aldehydes in volatile oils. The general methods for the detection and determination of chloride, sulphate, iron, arsenic and lead as impurities. The determination of the melting point of solids readily reducible to a

powder and of the boiling point, density, refractive index and optical rotation of liquids. The identification of the functional groups and the preparation of simple crystalline derivatives of organic compounds. The identification, or reference to class, of organic chemicals of the British Pharmacopœia. The qualitative analysis of mixtures of inorganic substances and organic acids and their salts commonly used in medicine. The preparation of simple organic compounds illustrative of the general processes involved in preparing substances included in the theoretical syllabus.

The candidate will be required to bring to the practical examination his original laboratory notebooks, duly signed by the teacher, for inspection should the examiners so desire. These notebooks must be taken away by the candidate at the close of the examination. The use of loose-leaf laboratory notebooks is not acceptable to the examiners. In the practical examination the candidate may use any book or books he chooses to bring including his own laboratory notebooks.

Pharmaceutics

The examination in this subject comprises two written sessions and two practical sessions each of three hours' duration. The examiners are not precluded from asking candidates oral questions during the practical session.

The candidate will be required to have a knowledge of the following:—The historical development of pharmacy. The application of physical phenomena to pharmaceutical operations—change of state; systems of two or more components—solutions, dispersions. Pharmaceutical processes and products—preparation of material; solvents; extraction; assay and standardisation; clarification and filtration including removal of fat, proteins, gums, pectins, tannins; ultrafiltration; stabilisation—maintenance of stability during storage; enzymes. The products of the British Pharmacopœia and the British Pharmaceutical Codex to be used to illustrate the above. The nature and properties of materials used in the construction of pharmaceutical apparatus. Microbiology in so far as it affects the content of this syllabus. Sterilisation and the preparation of sterile medicaments and materials. Disinfectants and antiseptics—methods for evaluation of disinfectants. Bacteriostatics and fungistatics. Asepsis in the preparation of sterile products—sources of contamination; aseptic precautions. The preparation, properties and storage conditions of immunological and diagnostic agents of the British Pharmacopœia; the general principles underlying their standardisation. Dispensing practice—ethical codes; the prescription—purpose, property rights; the doses of medicaments of the British Pharmacopœia; dispensing and compounding of medicines; containers; medical gases—containers and apparatus required and its use; equipment and organisation of the pharmacy. The candidate will be required to have such a knowledge of French or German as will enable him, with the aid of technical dictionaries, to translate into English passages from pharmacopœias published in that language.

PRACTICAL

The student must be prepared to carry out ordinary pharmaceutical operations including the making of preparations included in the British Pharmacopœia and the British Pharmaceutical Codex, the dispensing of prescriptions, the preparation and dispensing of sterile medicaments and materials, the detection of unusual doses and the completion of preparations in a proper manner. The preparation of sterile medicaments and materials includes the preparation of culture media, methods of evaluating antibiotics, sensitivity tests and tests for sterility.

The candidate will be required to bring to the practical examination his original laboratory notebooks, duly signed by the teacher, for inspection should the examiners so desire. These notebooks must be taken away by the candidate at the close of the examination. The use of loose-leaf laboratory notebooks is not acceptable to the examiners. In the practical examination the candidate will have the opportunity of consulting the British Pharmacopœia and the B.P.C.

Pharmacognosy

The examination in this subject comprises one written session of three hours' duration and one practical session of three hours. The examiners are not precluded from asking candidates oral questions during the practical session.

The candidate will be required to have a knowledge of the following:—

1. The commerce in and history of crude drugs.
2. Systems of classification of crude drugs.
3. Cultivation, collection, preparation for the market and storage of crude drugs.
4. Changes occurring in the drying, storage and comminution of crude drugs. The factors and organisms influencing deterioration of crude drugs.
5. Methods used for the examination of crude drugs. The isolation and identification of tissues and cells. Microchemical tests for cell walls and cell contents. Microscopical measurements. The systematic description of crude drugs.
6. The macroscopical and sensory characters, biological and geographical sources, commercial varieties and adulterants and constituents of the crude drugs in frequent use in pharmacy.
7. The microscopy of drugs of organised structure in the whole, broken or powdered condition, as illustrated by cascara, clove, cardamom fruit, fennel, belladonna herb, ginger, liquorice, ipecacuanha.
8. The microscopy of the starches and starch products of pharmaceutical importance. The use of microscopical characters to identify drugs of unorganised structure in frequent use in pharmacy.
9. Groups of drug constituents and their significance in pharmacy. Qualitative tests for the identification of, or the detection of adulteration in, the crude drugs in frequent use in pharmacy.
10. The types and significance of standards for crude drugs included in the British Pharmacopœia and the British Pharmaceutical Codex. The evaluation of crude drugs.
11. Unmedicated surgical dressings, their manufacture, structure and standards. The sources, preparation, char-

acters, qualitative chemical tests and constituents of fibres used in the manufacture of surgical dressings. 12. The principles underlying the practical work of the syllabus.

PRACTICAL

The candidate must be prepared:—

1. To examine and describe the macroscopical characters, the general distribution of tissues, the nature of the cell walls and the cell contents of crude drugs and to refer them to their morphological groups.
2. To identify in the entire or broken condition, by their gross characters and by qualitative tests, the crude drugs in frequent use in pharmacy and to state their biological and geographical sources.
3. To detect adulteration and deterioration in crude drugs in frequent use in pharmacy.
4. To analyse mixtures of crude drugs in the entire or broken conditions.
5. To examine microscopically, identify and describe the drugs included in paragraphs 7 and 8 of the theoretical syllabus.
6. To identify powders of single crude drugs and to report upon their purity.
7. To make microscopical measurements.
8. To examine, identify and report on the fibres and dressings named in paragraph 11 of the theoretical syllabus.
9. To carry out simple exercises in drug evaluation.
10. To recognise, in the entire condition, those crude drugs used in pharmacy or as sources of isolated principles.

The candidate will be required to bring to the practical examination his original laboratory notebooks, duly signed by the teacher, for inspection should the examiners so desire. These notebooks must be taken away by the candidate at the close of the examination. The use of loose-leaf laboratory notebooks is not acceptable to the examiners. In the practical examination the candidate may use the British Pharmacopœia, the British Pharmaceutical Codex and his own practical notebooks, except for the answering of those questions involving the identification and/or objective descriptions of crude drugs or the microscopical characters of those drugs indicated in paragraph 5 of the practical syllabus.

Physiology and Pharmacology

The examination in this subject comprises one written session of three hours' duration and one practical session during the latter of which the candidate will be required to carry out a practical exercise (occupying possibly about forty minutes) and undergo an oral examination in which the examiner may ask questions on both the theoretical and practical work of the syllabus.

The candidate will be expected to possess an elementary knowledge of the basic facts in the branches of physiology and pharmacology listed below, and of the main methods by which these facts were established.

PHYSIOLOGY

(General): The properties and control of skeletal, visceral and cardiac muscle. The formulation, properties, functions and circulation of the blood and lymph. The mechanism and control of pulmonary ventilation; gaseous

interchange at the lungs and tissues. Artificial respiration. The alimentary tract. Basal metabolism and body heat. The principles involved in constructing a balanced diet; vitamins. The kidneys and urinary tract. The central and peripheral nervous systems, including the autonomic nerves. The special senses of sight, taste and smell. The structure and functions of the glands of internal secretion including (a) pituitary body, (b) thyroid and parathyroids, (c) pancreas, (d) suprarenals, (e) testes and ovaries. The elements of reproduction in man. (*Histology*): The candidate must possess an elementary knowledge of the microscopical structure of the following:—muscle and nerve; the heart, blood vessels and blood; lungs; the digestive glands; stomach and intestines; liver; kidneys; skin; the endocrine glands and the reproductive organs, including the mammary gland and the placenta. (*Biochemistry*): The biochemistry and metabolism of carbohydrates, fats and proteins. The composition and functions of the salivary, gastric, biliary, pancreatic and intestinal secretions. The composition and nutritional value of common food stuffs. The chemistry of muscular contraction. The composition of blood, lymph and cerebrospinal fluid. Normal and abnormal constituents of urine.

PHARMACOLOGY

Scope of pharmacology. Theories of and factors affecting drug action. Quantitative methods in pharmacology.

Dose-response curves. The general principles and methods underlying the biological assays of the British Pharmacopœia, excluding the assays of sera, vaccines and bacterial derivatives. Special attention should be given to the determination of toxicity and LD50. An elementary study of the statistical principles involved in the assessment of the error of these quantitative tests. Drugs affecting structures innervated by the autonomic nervous system and the somatic motor nerves. Drugs used as central nervous depressants and stimulants. Anti-pyretics. Local anæsthetics. Emetics, antacids; purgatives; astringents; diuretics. Disinfectants, bactericides and bacteriostatics including antibiotics. The application of pharmacological principles in treatment of poisoning.

PRACTICAL

The candidate must be prepared:—To show his acquaintance with the methods employed for the demonstration of fundamental physiological and pharmacological processes, as laid down in the foregoing syllabus, and to carry out such chemical manipulations or simple experiments as are comprised therein. To recognise and describe with diagrams, histological preparations of any tissue or of any organs mentioned in the foregoing syllabus.

The candidate will be required to bring to the practical examination his original laboratory notebooks, duly

signed by the teacher, for inspection should the examiners so desire. These notebooks must be taken away by the candidate at the close of the examination. The use of loose-leaf laboratory notebooks is not acceptable to the examiners. In the practical examination, the candidate will be allowed to use his original laboratory notebooks, other than his histology notebook, provided that the books contain no other matter. *In and after the examination being held in the summer of 1954, the use of books will not be permitted.*

Forensic Pharmacy

The examination in this subject comprises one written session of three hours' duration.

The candidate will be required to have a knowledge of the following enactments and the subordinate legislation made under them, in so far as they are applicable to the practice of pharmacy in Great Britain:—the Pharmacy and Poisons Acts, 1852 to 1953, the Dangerous Drugs Act, 1951, the Acts relating to the National Health Service, the Shops Act, 1950, the Protection of Animals Act, the Food and Drugs Act, the Venereal Disease Act, the Cancer Act, the Therapeutic Substances Act, the Therapeutic Substances (Prevention of Misuse) Acts, 1947 to 1953, the Radio-Active Substances Act, and the Acts relating to the sale of spirits (including methylated spirits) and medicated wines and the sale of abortifacients.

OTHER COURSES OPEN TO STUDENTS

London External Degrees

THE following technical colleges offer courses leading to the Intermediate Bachelor of Pharmacy (London) (external) examination. In the list the date of commencement is followed (in parenthesis) by the date of enrolment:—**ABERDEEN**: Robert Gordon's Technical College, October 5 (September 30). **BIRMINGHAM**: College of Technology, September 20 (September 6). **BLACKBURN**: Municipal Technical College, September 13 (ditto). **BOLTON**: Technical College, September 13 (August 30). **BOURNEMOUTH**: Municipal College of Technology and Commerce, September 20 (September 13). **BRADFORD**: Technical College, September 27 (September 21-24). **BRIGHTON**: Technical College, September 23 (September 21). **COVENTRY**: Technical College, September 20 (September 9). **CROYDON**: Polytechnic, September 20 (September 13-15). **DAGENHAM**: South-east Essex Technical College, September 21 (September 20). **DONCASTER**: Technical College, September 20 (September 13). **DUNDEE**: Technical College, September 20 (September 13-15). **EWELL**: County Technical College, September 20 (September 13). **FOLKESTONE**: Technical College, September 13 (immediately). **GILLINGHAM**: Medway Technical College, September 14 (September 13). **HALIFAX**: Municipal Technical College, September 20 (ditto). **HUDDERSFIELD**: Technical College, September 20 (September 13-16). **HULL**: Municipal Technical College,

September 9 (September 6). **KINGSTON-ON-THAMES**: Technical College, September 21 (September 13-14). **LEICESTER**: College of Technology, September 13. **LONDON**: Acton Technical Institute, September 20 (September 9); Chelsea Polytechnic September 27 (September 20 and 22); Northern Polytechnic, September 27 (part-time September 20, full-time by letter immediately); Norwood Technical College, full-time September 13 (immediately), part-time September 27 (September 20); Regent Street Polytechnic (no vacancies); South-west Essex Technical College, Walthamstow, September 8 (ditto); Woolwich Polytechnic, September 27 (September 20-21). **NORTHAMPTON**: College of Technology, September 13 (September 6-10). **NORWICH**: Technical Institute, September 20 (September 10). **NOTTINGHAM**: Technical College, September 20 (September 17). **PORTSMOUTH**: Municipal College, September 13 (September 7). **PRESTON**: Harris Institute, September 13 (September 6-13). **SOUTH-END-ON-SEA**, September 6 (ditto). **SUNDERLAND**: Technical College, October 4 (September 23). **SWANSEA**: Technical College, September 20 (September 13). **TORQUAY**: South Devon Technical College, September 13 (immediately). **WEYBRIDGE**: Brooklands County Technical College, September 20 (September 13-15). **WOLVERHAMPTON**: Wolverhampton and Staffordshire Technical College, September 13 (immediately).

The following technical colleges offer courses for the final Bachelor of Pharmacy (London) (external) examination:—**ABERDEEN**: Robert Gordon's Technical College, October 5 (September 30). **BRADFORD**: Technical College, September 27 (September 21-24). **BRIGHTON**: Technical College, September 23 (September 21). **LEICESTER**: College of Technology, September 13. **LONDON**: Acton Technical Institute, September 20 (September 9); Chelsea Polytechnic, September 27 (ditto). **PORTSMOUTH**: Municipal College, September 13 (September 7). **SUNDERLAND**: Technical College, October 4 (September 22).

Revision and Post-Graduate Courses, etc.

BRADFORD: Technical College; facilities for research in chemistry and pharmacy, research scholarships.

BRISTOL: College of Technology; post-graduate and refresher courses arranged with local branches of the Pharmaceutical Society.

CARDIFF: College of Technology and Commerce; courses for the M.Pharm. and Ph.D. degrees of the University of Wales (admission by selection and invitation).

COVENTRY: Technical College; A.R.I.C. refresher course.

DAGENHAM: South-east Essex Technical College; course of twelve evening lectures on "Modern Aspects of Theoretical Organic Chemistry."

DERBY: Technical College; research in chemistry.

DUNDEE: Technical College; research scholarships in pharmaceutical subjects; holders of the B.Pharm. degree may present a thesis for the degree of Ph.D. of London University.

EDINBURGH: Post-graduate course for associateship of the Heriot-Watt College in two of the subjects:—pharmaceutical analysis, industrial microbiology, pharmaceutical engineering.

ENFIELD: Technical College; evening courses in radiochemistry and in vacuum technology.

EWELL: County Technical College; course in pharmaceutical chemistry.

HULL: Municipal Technical College; post-graduate course of ten lectures and demonstrations for pharmacists, revision course for failed or referred students by special arrangements.

LIVERPOOL: College of Technology; course in microscopy suitable for the F.R.I.C. (Branch E) examination, ten weekly lectures commencing September 22 on "Recent Experimental Methods in Chemistry," followed by ten on chromatography, commencing January 12, 1955.

LONDON: Acton Technical College; post-graduate course of twelve lectures on chemistry of oils and fats, part-time day laboratory course on oils and fats, both commencing October 1, twelve lectures on industrial applications of biochemistry, commencing September 29. Chelsea Polytechnic; evening revision courses in pharmaceutical subjects, commencing September 27. Northern Polytechnic; full-time and part-time research in chemistry for the degrees of M.Sc. and Ph.D. of London University, facilities for Associates of the Royal Institute of Chemistry to work for the Fellowship, special short courses in laboratory techniques, reaction kinetics, radio-active tracers and esters of phosphorus, silicon and boron. Regent Street Polytechnic; facilities for research in chemistry and biology, post-graduate course of six lectures in organic chemistry, Spring term 1955.

NOTTINGHAM: Technical College; part-time course for F.R.I.C. (Branch E), full- and part-time research in chemistry.

PORTSMOUTH: Municipal College; six evening lectures in pharmacology during the autumn term.

SALFORD: Royal Technical College; courses on statistical analysis and design of experiments, chromatography, recent advances in thermodynamics, design of reactors for the vapour phase, less common metals of industrial importance, polarography and applied electrochemistry.

SWANSEA: Technical College; facilities for research in chemistry.

WOLVERHAMPTON: Technical College; post-graduate courses in biochemistry and in radiochemistry, and a course of approximately ten lectures in modern spectrochemical techniques, commencing on September 20.

Diploma in Biochemical Analysis

THE course for the Diploma in Biochemical Analysis of the Pharmaceutical Society is concerned with the chemical examination of urine, blood, etc. Courses are available at:—

BRADFORD: Technical College, September 20 (September 13-16). **LONDON:** Chelsea Polytechnic, October 13 (ditto).

SUNDERLAND: Technical College.

SWANSEA: Technical College, September 20 (September 13).

Apothecaries' Assistants

COMPLYING with obligations laid down in the Apothecaries Act, 1815, the Society of Apothecaries of London, Black Friars Lane, Queen Victoria Street, London, E.C.4, continues to issue "certificates of competence to act as assistants in dispensing." Candidates for the examinations are examined in dispensing, chemistry, pharmacology, forensic pharmacy, and the translation of prescriptions. Examinations are held in January, April, July and October of each year. Courses (where school is not named refer to above list):—

London: London College of Pharmacy, 7 Westbourne Park Road, Bayswater, London, W.2. **Aston:** Technical College, Belfast: College of Technology. **Birmingham:** College of Technology. **Blackburn:** (chemistry only). **Bolton:** Bournemouth. **Bradford:** Brighton. **Bristol:** The Dispensary, Bristol General Hospital, College of Technology. **Cardiff:** Corby Technical College. **Coventry:** (chemistry only). **Derby:** (chemistry only; pharmacology and dispensing might be arranged at a hospital). **Edinburgh:** Chemical Laboratory, Royal Infirmary, Huddersfield (chemistry only). **Hull:** (chemistry only). **Ipswich:** East Suffolk and Ipswich Hospital. **Leicester:** Liverpool: Central Technical College. **Luton:** Luton and South Bedfordshire College, Newark. **Notts:** County Technical College. **Newcastle-on-Tyne:** Royal Victoria Infirmary, Queen Victoria Road. **Newport:** (chemistry only). **Northampton:** (chemistry only). **Norwich:** (chemistry only). **Oxford:** Schools of Technology, Art and Commerce (chemistry only). **Plymouth:** Portsmouth. **Sheffield:** College of Technology (chemistry only). **The Royal Sheffield Infirmary and Hospital.** **Smethwick:** Chance Technical College. **Southend:** (chemistry only). **Stockport:** Stoke-on-Trent (chemistry only). **Sunderland:** Swansea (chemistry only). **Wolverhampton** and **New Cross Hospital.**

Pharmacy (Northern Ireland)

Apprenticeship.—In order to qualify for registration as an apprentice in Northern Ireland a candidate must have passed at one examination (a) either any United Kingdom matriculation examination, the Grammar School Senior Certificate examination of the Northern Ireland Ministry of Education or the general certificate of education of the University of London in English or English language, a mathematical subject and three of the following: English literature (when a separate subject), Latin, French, German, domestic science, history, geography, botany or biology or zoology, chemistry, physics or mechanics. Apprenticeship comprises four years under articles with an employer who is a registered pharmacist or who undertakes to appoint a registered pharmacist on his staff to supervise the student's work. For a session of three terms during the fourth year of apprenticeship the student attends a full-time course.

Preliminary Scientific Examination.—Having served his apprenticeship and attended an approved course of instruction of not less than 750 hours, the

candidate must pass the Part I examination in chemistry, physics and biology (entrance fee £6 6s. for the first entry and £4 4s. for any subsequent entry).

Pharmaceutical Chemist Qualifying Examination.—A candidate may proceed to the qualifying examination without having passed Part I if he has passed the intermediate B.Sc. examination in pharmaceuticals of the Queens University of Belfast. The subjects at the approved full-time course are:—

PHARMACEUTICAL CHEMISTRY.—Principles of inorganic and organic chemistry illustrated by compounds in frequent pharmaceutical use. The characters, preparation and properties of the main types of aliphatic and simpler aromatic (with a single benzene ring) compounds. Principles underlying tests and assays of the British Pharmacopœia. *Practical:* Preparation and/or identification of certain organic compounds. Identification of the elements and characteristic organic groups. Performance of B.P. tests. Volumetric and alkaloidal (of simple solution only) assays.

PHARMACOGNOSY.—Recognition of certain B.P. or B.P.C. drugs, their sources, characters, active principles, varieties, and adulterants; knowledge of B.P. and B.P.C. tests.

PHARMACEUTICS.—Principles involved in pharmaceutical operations. Galenical preparations included in the B.P. Biology of bacteria so far as it affects the syllabus. Surgical dressings and their standardisation. Interpretation of prescriptions. Maximum B.P. doses. *Practical:* Preparation of galenicals and of sterile medicaments. Dispensing of prescriptions and detection of unusual doses.

PHYSIOLOGY.—An elementary knowledge of (i) biochemistry of food and tissues, (ii) structure of various tissues and organs, (iii) properties of muscle, (iv) the nervous system, (v) vision, (vi) the blood, (vii) the heart and peripheral blood vessels, (viii) respiration, (ix) digestion, (x) body heat, (xi) urine, (xii) endocrinology and (xiii) biological assays.

FORENSIC PHARMACY.—Knowledge of Acts relating to pharmacy in shop and hospital including the Dangerous Drugs, Therapeutic Substances and Pharmacy and Poisons (Northern Ireland) Acts.

The examination is held each June and December. Entrance fees: First entry £12 12s.; subsequently, £6 6s. A candidate who has passed or obtained exemption from the Preliminary Scientific examination and has passed the Final Part I for the B.Sc. in Pharmaceuticals, Queens University, need only pass the examination in forensic pharmacy to qualify for registration as a Pharmaceutical Chemist.

The institutions approved by the Society for preparation for the Preliminary Scientific examination are:—

College of Technology, Belfast.

Municipal Technical College, Londonderry.

Technical School, Portadown.

Technical School, Coleraine.

Technical School, Larne.

Technical School, Newry.

Technical School, Omagh.

and for the Pharmaceutical Chemist Qualifying examination:—

College of Technology, Belfast.

COURSES FOR PHARMACY STUDENTS

INTERMEDIATE EXAMINATION

THE following table gives details of courses for the Pharmaceutical Society's Intermediate examination. Intending students should apply for places as soon as possible.

The designation of the department is indicated by the italic letter following the name of the institution:—
B=Biology; *C*=Chemistry; *P*=Pharmaceutical; *S*=Science

Centre	Institution	Head of Department	Session starts	Enrolment
ABERDEEN ...	Robert Gordon's Technical College* <i>P</i>	J. E. Bowen, B.Sc., F.P.S., F.R.I.C.	October 5	September 30
BIRMINGHAM ...	College of Technology* <i>P</i>	F. R. C. Bateson, B.Pharm., F.P.S.	September 20	September 6
BLACKBURN ...	Municipal Technical College <i>C</i>	A. Walton, M.Sc., F.R.I.C.	September 13	September 13
BOLTON ...	Technical College <i>S</i>	D. C. Griffiths, M.Sc., Ph.D., F.R.I.C.	September 13	August 30
BOURNEMOUTH ...	Municipal College of Technology and Commerce <i>P</i>	P. B. Pitman, B.Sc., M.Sc.	September 20	September 13*
BRADFORD ...	Technical College* <i>P</i>	F. N. Appleyard, B.Sc., F.P.S., F.R.I.C.	September 27	September 21-24
BRIGHTON ...	Technical College* <i>P</i>	James C. Parkinson, Ph.D., B.Pharm. (London), F.P.S., A.R.I.C.	September 23	September 21
BRISTOL ...	College of Technology* <i>P</i>	W. Cooper, F.P.S., F.B.O.A.	September 16	September 16
BURNLEY ...	Municipal College <i>C</i>	F. Clifford, B.Sc.	September 27	September 13
CARDIFF ...	Welsh College of Pharmacy, College of Technology and Commerce* <i>P</i>	R. V. Lloyd, B.Pharm., F.P.S.	September 29	Before Sept. 29
CARLISLE ...	Technical College <i>C</i>	F. H. Day, Ph.D., M.Sc., F.C.S.	September 20	September 14-17
CHELMSFORD ...	Mid-Essex Technical College <i>S</i>	M. R. Gridley, B.Sc., F.Inst.P.	September 20	Before Sept. 20
CHELTHAM ...	North Gloucestershire Technical College	L. McPherson, M.Sc., F.Inst.P.	September 13	September 6-10
COVENTRY ...	Technical College <i>C</i>	H. C. Smith, M.Sc., Ph.D., F.R.I.C.	September 20	September 9
CROYDON ...	Polytechnic <i>C</i>	W. J. Boyd, Ph.D., B.Sc., A.R.I.C.	September 20	September 13-15
CRUMLIN ...	Technical College of Monmouthshire <i>C</i>	G. Gratton, M.Sc., A.R.I.C.	September 10	By September 9
DAGENHAM ...	South-east Essex Tech. College <i>C</i>	J. Ratcliffe, B.Sc., F.R.I.C.	September 21	September 20
DERBY ...	Technical College <i>C</i>	A. G. Catchpole, Ph.D., B.Sc., F.R.I.C.	September 20	September 13
DONCASTER ...	Technical College <i>S</i>	W. F. Andrews, M.Sc., B.Sc., A.R.I.C.	September 20	September 13
DUNDEE ...	Technical College* <i>P</i>	H. A. Perkin, B.Pharm., F.P.S.	September 20	September 20
EDINBURGH ...	Heriot-Watt College* <i>P</i>	H. H. Campbell, B.Sc., F.P.S., F.R.I.C.	October 12	October 11
ENFIELD ...	Technical College <i>C</i>	F. R. Paulsen, B.Sc., F.R.I.C., Ph.D.	September 20	September 9-15
EWELL ...	County Technical College	T. A. Buchanan, B.Sc., A.B.P.S.	September 20	September 13
FOLKESTONE ...	Technical College <i>C</i>	K. L. Scott, Ph.D., B.Sc.	September 13	Immediately
GILLINGHAM ...	Medway Technical College <i>C</i>	H. I. Stonehill, Ph.D., B.Sc., F.R.I.C.	September 14	September 13
GLASGOW ...	Royal Technical College* <i>P</i>	J. P. Todd, Ph.D., F.P.S., F.R.I.C.		No vacancies
GLOUCESTER ...	Technical College <i>C</i>	R. Harrison, B.Sc., M.A., F.R.I.C.	September 27	September 13
GUILDFORD ...	County Technical College <i>C</i>	J. C. Bevan, M.A., B.Sc., A.R.I.C.	September 20	September 20
HALIFAX ...	Technical College <i>C</i>	L. Hey, B.Sc., Ph.D., A.R.I.C.	September 20	September 6-9
HUDDERSFIELD ...	Technical College <i>B</i>	E. Lees, M.Sc., M.I.Biol.	September 20	September 13-16
HULL ...	Municipal Technical College <i>C</i>	L. Balmforth, B.Sc., F.R.I.C.	September 9	September 6
KINGSTON-ON-THAMES ...	Technical College <i>S</i>	H. P. Starck, M.A.	September 21	September 13-14
LEEDS ...	College of Technology <i>C</i>	W. R. Burnham, M.Sc., Ph.D., A.R.I.C.	September 8	September 7
LEICESTER ...	College of Technology* <i>P</i>	C. Gunn, B.Pharm., F.P.S.	September 13	No vacancies
LIVERPOOL ...	College of Technology* <i>P</i>	T. L. Bowyer, F.P.S., F.R.I.C.	September 13	September 6-10
LONDON ...	Acton Technical College <i>C</i>	J. H. Skellon, T.D., M.Sc., Ph.D., F.R.I.C.	September 20	September 9
	Chelsea Polytechnic* <i>P</i>	C. Morton, B.Sc., F.P.S.	September 27	Sept. 20 & 22
	Northern Polytechnic <i>C</i>	W. Gerrard, D.Sc., Ph.D., F.R.I.C.	September 27	Immediately
	Norwood Technical College <i>C</i>	J. T. Stock, M.Sc., Ph.D., F.R.I.C.	September 13	Immediately
	Regent Street Polytechnic <i>C</i>	W. Davey, Ph.D., B.Sc., F.R.I.C.		No vacancies
	South-west Essex Technical College <i>S</i>	R. W. Jukes, B.Sc., A.R.I.C.	September 9	September 9
	West Ham College of Technology <i>C</i>	F. L. Allen, M.Sc., Ph.D., F.R.I.C.	September 20	Immediately
	Woolwich Polytechnic <i>C</i>	A. I. Vogel, D.Sc., D.I.C., F.R.I.C.	September 27	September 20-21
MIDDLESBROUGH ...	Constantine Technical College <i>C</i>	G. Bulmer, M.A., Ph.D., A.R.I.C.	September 20	September 6
NEATH ...	Technical College <i>S</i>	E. McCutcheon, M.Sc.	September 20	September 13-17
NEWCASTLE ...	Rutherford College of Technology <i>S</i>	E. W. Mills, B.Sc., Ph.D., F.R.I.C.	September 27	September 13
NEWPORT ...	Technical College <i>S</i>	L. McGraghan, M.Sc., F.R.I.C.	September 6	September 6
NORTHAMPTON ...	College of Technology <i>C</i>	W. Siddall, B.Sc., Ph.D., A.R.I.C.	September 13	September 6-10
NORWICH ...	Technical Institute <i>C</i>	R. Jones, B.Sc.	September 20	September 10
NOTTINGHAM ...	Technical College <i>C</i>	J. R. Rowlands, M.Sc., A.R.I.C.	September 20	September 17

Centre	Institution	Head of Department	Session starts	Enrolment
PLYMOUTH ...	Technical College* <i>P</i>	V. Smith, M.Sc., F.R.I.C., F.P.S.	September 13	Immediately
PORTSMOUTH ...	Municipal College* <i>P</i>	E. Thorpe, B.Sc., B.Pharm., F.P.S.	September 13	September 7
PRESTON ...	Harris Institute <i>C</i>	E. Taylor, M.Sc., F.R.I.C.	September 13	September 6-13
REDRUTH ...	Cornwall Technical College <i>S</i>	J. R. Slater, B.Sc.	September 6	By September 6
ROTHERHAM ...	Technical College <i>C</i>	M. B. Thompson, A.R.S.M., B.Sc., Ph.D.	September 20	Immediately
SALFORD ...	Royal Technical College <i>C</i>	Details from the college		
ST. HELENS ...	Municipal Technical College <i>S</i>	A. H. Henson, B.A., A.R.I.C.	September 22	September 13-16
SHREWSBURY ...	Technical College <i>S</i>	W. M. Buchan, M.A., A.M.I.E.E.	September 14	Immediately
SOUTHEND-ON-SEA ...	Municipal College <i>S</i>	C. R. Baines, B.Sc., A.R.I.C.	September 6	September 6
SOUTHPORT ...	Technical College <i>C</i>	A. E. Hollis, B.Sc.	September 6	September 6
STOCKPORT ...	The College <i>S</i>	H. H. Armstrong, B.Sc., F.R.I.C.	September 20	September 14
STOKE-ON-TRENT ...	North Staffordshire Technical College <i>S</i>	W. K. Wilde, M.Sc., F.R.I.C.	September 20	September 6-10
SUNDERLAND ...	Technical College* <i>P</i>	F. H. Oliver, B.Sc., B.Pharm., F.P.S.	October 4	September 23
SWANSEA ...	Technical College <i>C</i>	A. R. Lowe, Ph.D., B.Sc., A.R.C.S., F.R.I.C.	September 20	September 13
TORQUAY ...	South Devon Technical College <i>P</i>	A. E. Oldbury, B.Sc., A.C.T.	September 13	Immediately
WEYBRIDGE ...	Brooklands County Technical College <i>S</i>	R. L. D. Ellis, M.Sc., A.R.I.C.	September 20	September 13-15
WIGAN ...	Wigan Mining and Technical College <i>C</i>	H. K. Dean, B.Sc., Ph.D., F.R.I.C.	September 27	September 13-15
WOLVERHAMPTON ...	Technical College <i>S</i>	J. A. Waddams, B.Sc., M.Sc., A.R.I.C.	September 13	Immediately
WREXHAM ...	Denbighshire Technical Institute <i>S</i>	F. R. Illingworth, D.Sc., F.R.I.C., A.R.C.S.	September 23	September 16

*Institutions also offering a course for the Qualifying examination.

INTERNAL DEGREE COURSES IN PHARMACY

The following universities and colleges offer courses for internal degrees in pharmacy.

Centre	Institution	Head of Pharmaceutical Department	Session starts	Enrolment
CARDIFF ...	Welsh College of Pharmacy, College of Technology and Commerce	R. V. Lloyd, B.Pharm., F.P.S.		No vacancies
GLASGOW ...	Royal Technical College	J. P. Todd, Ph.D., F.P.S., F.R.I.C.		No vacancies
LONDON ...	School of Pharmacy, University of London	H. Berry, B.Sc., Dip. Bact., F.R.I.C., F.P.S.		No vacancies
MANCHESTER ...	The University	H. Brindle, M.Sc., F.R.I.C., F.P.S.		No vacancies
NOTTINGHAM ...	The University	G. E. Trease, B.Pharm., F.P.S., F.R.I.C., F.L.S.		No vacancies

PHARMACEUTICAL SOCIETY'S QUALIFYING EXAMINATION

Centre	Institution	Head of Pharmaceutical Department	Session starts	Enrolment
ABERDEEN ...	Robert Gordon's Tech. College	J. E. Bowen, B.Sc., F.P.S., F.R.I.C.	October 5	September 30
BIRMINGHAM ...	College of Technology	F. R. C. Bateson, B.Pharm., F.P.S.	September 20	September 6 (No vacancies)
BRADFORD ...	Technical College	F. N. Appleyard, B.Sc., F.P.S., F.R.I.C.	September 27	September 21-24
BRIGHTON ...	Technical College	James C. Parkinson, Ph.D., B.Pharm. (London), F.P.S., A.R.I.C.	September 23	September 9
BRISTOL ...	College of Technology	W. Cooper, F.P.S., F.B.O.A.	September 16	September 16
CARDIFF ...	Welsh College of Pharmacy, College of Technology and Commerce	R. V. Lloyd, B.Pharm., F.P.S.	September 29	No vacancies
DUNDEE ...	Technical College	H. A. Perkin, B.Pharm., F.P.S.	September 27	September 27
EDINBURGH ...	Heriot-Watt College	H. H. Campbell, B.Sc., F.P.S., F.R.I.C.	October 12	October 11
GLASGOW ...	Royal Technical College	J. P. Todd, Ph.D., F.P.S., F.R.I.C.		No vacancies
LEICESTER ...	College of Technology	C. Gunn, B.Pharm., F.P.S.	September 13	No vacancies
LIVERPOOL ...	College of Technology	T. L. Bowyer, F.R.I.C., F.P.S.	September 13	No vacancies
LONDON ...	Chelsea Polytechnic School of Pharmacy, University of London	C. Morton, B.Sc., F.P.S.	September 27	September 27
MANCHESTER ...	The University	H. Berry, B.Sc., Dip. Bact., F.R.I.C., F.P.S.	September 29	No vacancies
NOTTINGHAM ...	The University	H. Brindle, M.Sc., F.R.I.C., F.P.S.		September 29
PLYMOUTH ...	Technical College	G. E. Trease, B.Pharm., F.P.S., F.R.I.C., F.L.S.	October 7	No vacancies
PORTSMOUTH ...	Municipal College	V. Smith, M.Sc., F.R.I.C., F.P.S.	September 13	No vacancies
SUNDERLAND ...	Technical College	E. Thorpe, B.Sc., B.Pharm., F.P.S.	September 13	September 7
		F. H. Oliver, B.Sc., B.Pharm., F.P.S.	October 4	September 22

Pharmacy (Republic of Ireland)

AN applicant for registration as a pharmaceutical student in the Republic of Ireland must have passed a preliminary examination in English, Irish, Latin, mathematics, and a fifth subject and in addition the pre-registration examination of the Pharmaceutical Society of Ireland. A candidate who has gained credit for physics and chemistry in the preliminary examination or in certain university examinations is exempt from the pre-registration examination. The preliminary examination may be: (a) the Leaving Certificate examination of the Irish Department of Education, (b) the matriculation examination of the National University, (c) any examination of equivalent standard, conducted outside the State, which may be acceptable to the Council.

The Science Course.—A registered student must attend the Society's College for a continuous course of three terms of lectures in pharmaceutical and general chemistry, biology, pharmaceuticals, forensic pharmacy, history of pharmacy and ethics. A student must pass terminal examinations and the First Professional examination (held annually).

Apprenticeship.—A student who has passed the First Professional examination must serve three years as an apprentice in an approved pharmacy.

The Pharmacy Course.—At the conclusion of apprenticeship a student returns to the Society's College for a further continuous course of three terms of lectures in pharmaceutical chemistry, pharmaceuticals, pharmacognosy, forensic pharmacy, compounding and dispensing, and the Irish Pharmacopœia. A student who has passed terminal examinations is entitled to enter for the Second Professional examination. On passing this he is eligible for registration as a pharmaceutical chemist.

Syllabus: CHEMISTRY.—(a) *Theoretical and Physical Chemistry:* Atomic structure, gas laws, kinetic theory of gases, osmotic pressure, law of mass action, laws of electrolysis, ionisation, solubility products, pH values (including buffer solutions and indicators), molecular weight determinations, radioactivity, bond structure. (b) *Inorganic Chemistry:* A study of the chemistry of the elements based on the periodic table interpreted in the light of modern views on atomic structure. (c) *Organic Chemistry:* A general study of aliphatic and aromatic compounds, with special reference to those of pharmaceutical importance.

Practical: Qualitative analysis of simple salts and of mixtures containing not more than two basic and two acidic radicals. Volumetric analysis, including acidimetry and alkalimetry, permanganate, iodine and silver nitrate titrations; simple problems involving such titrations. Preparation of simple organic substances, including tests for purity such as melting-point and boiling-point determinations.

PHARMACEUTICS.—*Theoretical:* Preparation of pharmaceutical products of the Pharmacopœia, processes there employed, official methods of standardisation, processes employed in the com-

pounding of prescriptions, precautions in aseptic dispensing, pharmaceutical sterilisation, application of physico-chemical concepts to pharmacy (e.g., osmotic pressure, pH solubility product, acid-base reactions, etc.). *Practical:* Weighing, measuring and compounding medicines, writing directions and finishing properly, calculation of quantities in prescriptions, detection of incompatibilities and overdoses, preparation of official and semi-official galenicals, sterilisation of medicaments and solutions for injection, identification of medicaments and preparations commonly used in medicine, compounding under aseptic conditions.

PHARMACOGNOSY.—The recognition of specimens of vegetable and animal substances used in medicine, a knowledge of the family, methods of cultivation, collection and preservation of drugs, and their source (botanical or zoological, and geographical); their chief constituents and adulterants; their galenical preparations and doses.

BOTANY.—General morphology and physiology of the plant kingdom, systematic botany, characteristics of the principal members of the vegetable kingdom (algæ, fungi, pteridophyta and thallophyta) and the characters of a number of selected families.

ZOOLOGY.—General morphology of the animal, with special reference to a few selected examples, e.g., rabbit, dog-fish, etc. Physiology of animals: respiration, absorption, digestion and elaboration of food materials; enzymes and hormones.

BIOCHEMISTRY.—Chemical structure of human tissues (e.g., bone, muscle, blood). Hormones, vitamins and enzymes, their location and action, and diseases caused by deficiency. Human physiology, location and functions of the principal human organs, action of medicaments in the treatment of infections and diseases.

INTRODUCTION TO BACTERIOLOGY.—A course on the biology of bacteria, the preparation of culture media, staining, etc., to provide students with a basis for more advanced work in the pharmaceuticals course.

Assistants' Examination.—A registered student who has passed the First Professional examination and who has completed his period of apprenticeship may enter for an examination for the qualification of Assistant to Pharmaceutical Chemist. This entitles the holder to carry out the duties of a pharmaceutical chemist in the temporary absence of one such but does not entitle him to conduct open shop.

Membership.—A person whose name is entered on the Register of Pharmaceutical Chemists may use the suffix L.P.S.I. He may apply for membership of the Society (M.P.S.I.) and on election pays an annual subscription of £3 3s.

Fees.—Preliminary registration, £4 4s.; Science course, £45; First Professional examination, £6 6s.; Pharmacy course, £45; Second Professional examination, £6 6s.; Assistants' examination, £3 3s.; Assistants' registration, £2 2s.; Licence registration, £10 10s.

A student registered prior to July 31, 1952, may elect to follow the regula-

tions which were in force up to that date. If such a student has not passed the Licence examination during an interim period of six years, he will be obliged to conform to the regulations summarised above. The Licence examination is conducted in two parts (corresponding to the First and Second Professional examinations). Part 1 consists of chemistry, botany and biology; part 2 of pharmaceuticals, pharmacognosy, compounding and dispensing, forensic pharmacy. A candidate may not take part 2 until he has passed part 1. A candidate who fails part 1 may enter for re-examination at intervals of three months. A candidate who fails part 2 may enter for re-examination at intervals of six months. The fee for either part is £6 6s.

Medicine

THE registration body for medical practitioners in the United Kingdom is the General Medical Council, 44 Hallam Street, London, W.1. There are a number of examining bodies, and when a student has passed the final examination of one of these bodies he is entitled to provisional registration as a medical practitioner. In order to obtain full registration he must thereafter render satisfactory service for twelve months in appropriate resident appointments in approved hospitals or institutions. Study occupies a minimum of five years after passing a recognised examination in general education and in chemistry, physics and biology.

The principal universities in the U.K. confer degrees in medicine and surgery (M.B., Ch.B. or equivalent). Other examining bodies whose qualifications confer a title to registration are:—

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON and THE ROYAL COLLEGE OF SURGEONS OF ENGLAND, particulars from the Secretary, Examining Board in England, Examination Hall, 8 Queen Square, London, W.C.1.

THE SOCIETY OF APOTHECARIES OF LONDON, particulars are obtainable from the Registrar, Apothecaries' Hall, Black Friars Lane, Queen Victoria Street, London, E.C.4.

THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS OF EDINBURGH and THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW, particulars are obtainable from the Secretary, Scottish Conjoint Board, 18 Nicholson Street, Edinburgh.

Dentistry

THE practice of dentistry is restricted by Act of Parliament to persons registered in the dentists register or under the Medical Acts, but the provision of general dental services under the National Health Service Acts is confined only to persons registered in the dentists register. Possession of a degree or licence in dental surgery granted by a university or other licensing corporation in Great Britain or Ireland carries with it the right to registration in the dentists register kept by the Dental Board of the United Kingdom, 44 Hallam Street, London, W.1. Degrees and/or licences in den-

tal surgery are granted by all universities except Aberdeen, Cambridge, Nottingham, Oxford and Wales and licences are granted by:—ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, London, W.C.2; ROYAL COLLEGE OF SURGEONS OF EDINBURGH, 18 Nicholson Street, Edinburgh, 8; ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW, 242 St. Vincent Street, Glasgow; ROYAL COLLEGE OF SURGEONS IN IRELAND, St. Stephen's Green, Dublin.

The course usually extends over five years (including a year devoted to chemistry, physics and biology).

Registration in Ireland is in the hands of the Dental Board, 57 Marriion Square, Dublin.

MISCELLANEOUS INQUIRIES

Cleaning Gramophone Records

Do you know of a preparation for cleaning old gramophone records?

OLD gramophone records may be cleaned by careful sponging with a dilute solution of one of the modern detergents.

Tan Stain for Skin

Can you suggest a formula for a substance that will stain the skin a good tan colour to remain for seven to nine days and not wash off?

Two methods are suggested:—Walnut stain, which is difficult to obtain except perhaps from a herbalist, or weak solutions of permanganate of potash. The objection to a dilute solution of tincture of iodine is that it dries the skin and causes exfoliation. In all the above, the stain should last for a week.

Copper Sprays

What are the ingredients of copper sprays for use as a substitute for lime sulphur in spraying trees?

THE following sprays are of value and have the added advantage that the danger of leaf-scorch is considerably reduced: Cuprous oxide, basic copper sulphate or the double salt, cuprous oxy-chloride sulphate, 1 oz. in 12 gall. of white petroleum spray (see *C. & D.*, Feb. 13, p. 168). Delicate foliage can be protected with dilutions of the copper salt to 1:5000 or one part in three of the above mixture in soft water. The copper salt should be mixed to a smooth paste with some of the paraffin, the mixture added to the remainder, after which the previously-prepared soap solution is added. The concentrated solution may be stored and diluted as required.

Cleaning Old Stone-work

Can you suggest a method for cleaning old stone-work, such as door-posts and window-sills?

If the stone-work is not very much discoloured it may be found that washing with soft soap, washing soda and hot water will be sufficient. Vegetable matter such as lichens is best removed by a solution of caustic soda (6 oz. to a gallon of water) which is applied by means of a scrubbing brush, allowed to remain on the stone for ten minutes

Optics

THERE are five examining bodies concerned with the career of ophthalmic opticians: The Worshipful Company of Spectacle Makers, the British Optical Association, the National Association of Opticians, the Scottish Association of Opticians, and the Institute of Optical Science. Full-time courses for the examinations generally last three years and part-time five years.

Chiropody

To gain admission to the National Register of Medical Auxiliary Services, it is necessary to pass the examination of the Society of Chiropodists, 21 Cavendish Square, London, W.1.

and then washed off with plenty of clean water. Iron or rust stains may be removed by using oxalic acid, 1 lb. per gallon of water. The solution should be mopped on and left for two or three hours, then scrubbed off with plenty of clear water, but this method should be used as infrequently as possible, since acids render the surface rough and more susceptible to vegetable growths. Grease-stains may be removed by scrubbing with benzene or by the application of common clay saturated with benzene. Many general-service stains can be removed by scrubbing with ordinary commercial scrubbing powders, or by applying those to obstinate patches as a paste.

Wood Preservatives

What is the composition of the solutions used for preserving wood and for protection against dry rot and death-watch beetle?

ZINC chloride is extensively used as a preservative for wood, the proportion generally used being 1 lb. of zinc chloride to 9 gall. of water. On the Continent, dinitro-ortho-cresol potassium (in solution 1 in 750) is used against dry rot in wood. For the prevention of mould, a solution containing 1 per cent. of sodium fluoride and 0.66 per cent. of mercuric chloride has been found effective. Recently, emulsions of phenoloids, and of high-boiling acids obtained in the redistillation of tar from coke ovens, also dinitrophenol (and its salts) alone or in combination, are finding increasing use for the preservation of wood. The following is recommended as a highly efficient preservative:—

Sodium fluoride	...	...	88.9
Dinitrophenol aniline	...	...	11.1

Applied in the form of a solution.

For protection against the death-watch beetle, impregnation of the timber with the following emulsion has given good results:—

Zinc oleate (or barium oleate)	...	...	3
Cedarwood oil	...	...	3
Soap	...	...	1
Hard paraffin	...	...	10
Water	...	...	83

A combination of copper oleate and dichlorobenzene is also useful for the same purpose. However, for general use creosote is extensively used as the most efficient wood preservative, e.g., for fences.

DEVELOPMENTS IN THE UNITED STATES

A NEW process for the manufacture of hydrogen peroxide has been developed by the Solvay Process Division of the Allied Chemical and Dye Corporation, New York. The new process involves a chemical oxidation reaction using raw materials mainly available within the Corporation.

A simplified method for measuring lipoproteins, which may aid physicians in the early detection of atherosclerosis, has been developed by the Lederle Laboratories Division, American Cyanamid Co., New York. The Lederle test, according to Dr. Wilson C. Grant, can be performed in any medical laboratory and requires only a relatively inexpensive serum produced in chickens. The diagnostic agent is prepared by injecting chickens with human lipoprotein fraction to produce antibodies. When serum containing those chicken antibodies is mixed in a test tube with human blood, the lipoprotein fraction of the blood is precipitated. Studies to determine whether the serum can be commercially produced in animals other than chickens are now in progress at Lederle Laboratories.

A new method of evaluating germicides has been developed by a bacteriologist of the University of California (Dr. A. J. Salle). Living heart tissue from chick embryos is placed in test-tubes with bacteria commonly found in wounds. After the bacteria have invaded the tissue, various dilutions of the germicide are added. The germicide is subsequently washed off and the tissue observed. No bacterial growth shows that all the bacteria have been killed; and no tissue growth, that the germicide is toxic to tissue. By comparing the highest dilution which still is toxic to tissue with the highest dilution that kills all the bacteria, a numerical value, the toxicity index, is obtained.

Following pilot-plant tests, Professors Robert E. Zinn and William F. Stevens (chemical engineers at the Technological Institute of the Northwestern University) have announced that vitamin B₁₂ can now be made from sewage on a commercially practicable basis.

It is reported that the McKesson & Robbins Co., New York, are marketing a deodorant cream containing tyrothricin. It is said that the antibiotic checks the growth of odour-causing bacteria.

Robert D. Jackson and Neil C. Spencer, two research scientists of the American Chlorophyll Division, Strong, Cobb & Co., Inc., have developed a new liquid-liquid extractor for the production of pure chlorophyll derivatives. The new equipment is expected to make possible clinical investigations of the possible effects of such derivatives as cardiac stimulants, wound healers, and in the treatment of various dermatoses. The extractor makes it possible, the company say, to obtain pure compounds of chlorophyll if required.

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, JULY 21: Prices were generally steady in the CRUDE DRUGS market and the period of comparative inactivity continued. The most significant change was a fairly sharp rise in Sudanese BEESWAX.

Other waxes that altered in price during the week were Dar-es-Salaam BEESWAX, CANDELILLA (both up), and CARNAUBA and MONTAN (both down). A slight rise in the prices of Tinnevely SENNA pods and leaves and of SHELLAC, and a slight reduction in the price of TURMERIC, were reported.

In the field of PHARMACEUTICAL and FINE CHEMICALS no price changes were reported by manufacturers.

In ESSENTIAL OILS price increases for imported oils of CARAWAY and of PETITGRAIN were reported.

Pharmaceutical Chemicals

ASCORBIC ACID. — The following are the current prices (per kilo) for British material:— 1 kilo, £9 0s. 6d.; 10 kilo, £8 14s.; 100 kilo, £8 8s.

ASPIRIN.—Prices are as follows:—5-cwt. lots, 4s. 6d. per lb.; 1-cwt., 4s. 6½d.; 28-lb., and under 1-cwt., 5s. 4d.

BORAX. — Prices for B.P. grade, for quantities of 1-ton and upwards are as follows:—Granular, £47 10s.; crystals, £50; powder, £51; extra-fine powder, £52 per ton. Prices of commercial range from £37 10s. to £43 per ton, as to type and dehydrated borax is £58 10s. per ton in 140-lb. paper-lined hessian bags or £57 10s. in 1-cwt. paper bags; carriage paid in Great Britain. Surcharges for smaller quantities.

BUTOBARBITONE.—B.P.C. is 70s. per lb. in 1-cwt. lots.

CALAMINE.—1-cwt. lots are 1s. 7d. per lb.; 10-cwt., 1s. 5½d.

CALCIUM CARBONATE. — B.P. powder is £24 10s. per ton, ex store.

CALCIUM CHLORIDE. — B.P. crystals are 1s. 0½d. per lb. in 1-cwt. lots and exsiccated 10d.

CARMINE.—1-cwt. lots are about 87s. 6d. per lb.

CHALK.—In minimum 1-ton lots powder is £21 and cones, £22 10s. per ton.

CHLOROCRESOL.—Pharmaceutical quality is quoted at 6s. per lb., in 1-cwt. drums.

CHLOROFORM.—1-cwt. lots in winchesters are 3s. 6d. per lb.; 56-lb., 3s. 6½d. In drums, prices are 3s. 4d. and 3s. 4½d.

CITRIC ACID.—In tight supply. Quotations (per cwt.) are 205s. for 1-4-cwt. lots and 200s. for 5-cwt.

FEROUS SULPHATE.—1-cwt. lots of B.P. crystals are 42s. 6d. per cwt. and 5-cwt., 40s.; granulated, 2s. 6d. per cwt. more. EXSICCATED is 95s. per cwt. and 5-cwt., 91s.

GLYCEROPHOSPHATES.—Rates per lb. for 1-cwt. lots are as follows:—ACID, B.P.C., 20 per cent., 5s. 9d.; CALCIUM, soluble, B.P.C., 11s. 9d.; IRON, B.P.C., scale, 15s. 9d. and powder, 14s. 9d.; MAGNESIUM, soluble B.P.C., 14s. 3d., and insoluble, 7s. 6d.; MANGANESE, B.P.C., 26s. 3d.; POTASSIUM 50 per cent., B.P.C., 3s. 9d. and 75 per cent., B.P.C., 5s. 6d.; SODIUM, 50 per cent., B.P.C., 3s. 1d. and 75 per cent., B.P.C., 4s. 6d.

HOMOTROPINE.—Current rates (per oz.) for 16-oz. lots are: ALKALOID, 49s.; HYDROBROMIDE, 29s. 9d.; HYDROCHLORIDE, 42s.; METHYLBROMIDE, 40s. 6d.; SULPHATE, 41s. 6d. 1-oz. rates are 6d. per oz. higher in all cases.

IODIDES. — The current quotations are given below:—

IODIDE	per lb.		Quantity
	s.	d.	
AMMONIUM ...	19	6	28 lb.
ARSENIC TRI- ...	45	0	28 lb.
CADMIUM ...	20	6	28 lb.
CALCIUM (PLATES) ...	20	9	7 lb.
ETHYL ...	25	0	28 lb.
IRON ...	22	0	7 lb.
LEAD ...	21	0	7 lb.
LITHIUM ...	26	6	28 lb.
POTASSIUM ...	12	7	1 cwt.
SODIUM ...	14	7	1 cwt.
STRONTIUM ...	21	0	28 lb.
ZINC ...	26	3	7 lb.

LEAD ACETATE.—B.P. crystals are 180s. per cwt., and technical, 160s.

LITHIUM SALTS. — Current minimum rates (5-cwt.) are as follows:—BENZOATE, 11s. per lb.; CARBONATE, B.P.C., 11s. 3d.; CHLORIDE (commercial), 10s. 9d. to 11s.; HYDROXIDE, 10s. 6d.; CITRATE, B.P.C., 9s.; SULPHATE, 8s. 6d.; SALICYLATE, 9s. 9d. (10-cwt.), delivered.

MAGNESIUM SULPHATE.—Quotations for B.P. in minimum 1-ton lots vary between £17 10s. and £20 per ton, according to size of crystal and manufacture. Exsiccated is £34 per ton.

MAGNESIUM TRISILICATE. — In 28-lb. packages the prices (per lb.) are now as follows:—28-lb., 4s. 9½d.; 1-cwt., 3s. 10d.; 5-cwt., 3s. 7d.; 1-ton, 3s. 1d.

PAPAVERINE.—Synthetic HYDROCHLORIDE is offered at 330s. per kilo, and ALKALOID at 420s.

PARALDEHYDE.—Carboy lots of pharmaceutical grade are 1s. 10½d. per lb.

PAS.—The SODIUM salt is from 26s. to 30s. per kilo as to quantity.

PHENACETIN. — In 5-cwt. lots makers' price is now 6s. 8d. per lb., 1-cwt., 6s. 9d.

PHENYTOIN SODIUM. — Quotations for 1-cwt. lots are 25s. per lb.

PIPERAZINE. — Quotations for HYDRATE are from 37s. 6d. per lb.

POTASSIUM PERMANGANATE. — Rates for B.P. material for 1-cwt. lots is 1s. 8½d. per lb., and for technical, 181s. 6d. per cwt.

RIBOFLAVINE. — Price (per kilo) is £41 15s. for 1-kilo and £41 10s. for 100-kilos.

ROCHELLE SALT. — Rates (per cwt.) for powder or granulated material are as follows: In 5-cwt. lots or over, 180s. per cwt.; 1-cwt. 182s. 6d. SEIDLITZ POWDER ordinary strength is 144s. per cwt. in 1-cwt. lots; smalls, from 1s. 9½d. to 2s. 0½d. per lb. Extra-strong is 155s. per cwt., and from 1s. 10½d. to 2s. 1½d. per lb. for small quantities. Double-strength is 161s. per cwt.; smalls, 1s. 11½d. to 2s. 2½d. per lb.

SALICYLIC ACID.—Prices are: 5-cwt. lots in bulk, 2s. 11½d. per lb.; 1-cwt., 3s.; 56-lb., 3s. 7d.

SODIUM ACETATE. — B.P.C. powder in 28-lb. lots is 1s. 9d. per lb.

SODIUM PERBORATE. — Prices (per cwt.) are 142s. 9d. in 1-cwt. kegs; 135s. 3d. in 1-cwt. bags for B.P.C. (minimum 10 per cent. available oxygen). Other strengths pro rata. The PERBORATE MONOHYDRATE testing 15 per cent. available oxygen is 305s. 3d. per cwt.

TERPINEOL. — Prices of B.P. grade are from 3s. to 3s. 6d. per lb., as to quantity.

Crude Drugs

ACONITE. — Spanish napellus is 3s. 6d. per lb., duty paid, ex wharf.

AGAR. — Kōbē No. 1 on the spot is from 16s. 6d. to 17s. per lb. Shipment, 14s. 9d., c.i.f.

ALOE. — Prime Cape, spot market cleared; prime quality for shipment, 195s. to 210s., c.i.f. Curaçao is 305s. on the spot and 290s., c.i.f., for shipment.

ANISEED. — Chinese star is offered at 200s. per cwt., duty paid and 157s. 6d., c.i.f.

ANTIMONY. — English 99.6 per cent., £222 10s.; 99 per cent., £210 per ton.

ARECA NUTS. — Quotations are about 45s. per cwt. for Ceylon material on the spot. Shipment, 42s. 6d., c.i.f.

ASAFOETIDA.—Persian block is from £10 to £14 per cwt., duty paid, as to quality.

BALSAMS.—Quotations (per lb.) are:—Canada: 20s. to 21s. 6d. according to quality, spot. Copaba, B.P., 11s. 6d., nominal. Peru, 9s. in bond. Tolu (genuine as imported), 26s. 6d. spot and 26s., c.i.f.

BENZOIN.—Sumatra block No. 1 on the spot is from £30 to £34 per cwt. Forward, £28 10s., c.i.f.

BISMUTH METAL.—Minimum rate is 16s. per lb.

BUCHU.—No shipment offers from any source: 3s. new crop; 2s. 9d. old crop.

CALUMBA. — Ordinary natural sorts are quoted at 90s. per cwt. on the spot.

CAMPOR.—Scarce. Powder and tablets cleared on spot. Shipment offers (c.i.f.) as follows: Tablets (Chinese), ½-oz., 5s. 4d. per lb.; ¼-oz., 5s. 5d.; ½-oz., 5s. 6d.

CAPRICUMS.—East African on stalk are 160s. per cwt., spot. Abyssinian, off stalk, 195s., spot, duty paid.

CARDAMOMS. — Aleppy greens are 13s. 9d. per lb. on the spot; prompt shipment offers are 10s. 9d., c.i.f., and new-crop for October-November, 9s. 3d., c.i.f.

CASCARA SAGRADA.—New-crop, 240s. per cwt., c.i.f., London. Spot material (old-crop) value is 310s., duty paid.

CASSIA BARK. — Whole on the spot is about 90s. per cwt., in bond, and for forward delivery, 78s., c.i.f. Broken 78s., in bond, and 66s., c.i.f.

CHAMOMILE. — Belgian flowers are 5s. to 5s. 6d. per lb. on the spot.

CHERRY BARK. — Thin natural is from 1s. 8d. per lb., duty paid, and rossed, 2s. 1d., on the spot.

CHILLIES.—Mombasa are 305s. to 320s. per cwt. on the spot.

CINCHONA. — Price per lb. varies from 1s. 7d. to 2s. according to test.

CINNAMON.—Ceylon for shipment (c.i.f.), per lb.: OOOO, 3s. 11d.; OOO, 3s. 10d.; OO, 3s. 9d.; O, 3s. 8d.; firsts, 3s. 2d.; seconds, 3s. 1d.; thirds, 3s.; quillings, 2s. 3½d.; featherings, 1s. 4½d.; chips, 7½d.

CLOVES.—Quiet. Zanzibar on the spot are 4s. 4d. per lb.; prompt shipment, 4s. 0½d., c.i.f.

COLCHICUM.—Corms on spot are offering at 2s. 3d. per lb., and seeds, 6s.

COLOCYNTH.—A small quantity of pulp is offered at 1s. 10½d. per lb., duty paid.

ERGOT. — Portuguese for shipment, 19s. 6d. per lb., c.i.f., nominal.

GALANGAL.—Root is quoted at 80s. per cwt., c.i.f., for shipment, and spot, 85s.

GINGER.—African old-crop on the spot is 195s. per cwt. with shipment offers at 190s., c.i.f. Jamaican No. 3 is 230s. on the spot and 222s. 6d., c.i.f.

HENNA.—Indian is 105s. and Egyptian, 130s. to 140s. per cwt. on the spot.

HONEY.—Quiet. Australian light-amber is unchanged on the spot at from 100s. to 108s. per cwt. and medium-amber, 92s. 6d. to 97s. 6d. Argentine is quoted at from 115s. to 120s. and Jamaican from 120s. to 130s.

HYDRASTIS.—Root is 18s. per lb., on the spot.

IPECACUANHA.—No primary shipment offers from any source. Spot market bare.

KARAYA.—No. 1 gum on the spot is quoted at 260s. per cwt., and 230s. for shipment, and No. 2 at 170s. and 155s., c.i.f.

KOLA NUT.—African halves are available on the spot at 5½d. per lb.

LANOLIN.—In 1-ton lots the price of ANHYDROUS, B.P., is about 200s. per cwt.

LIQUORICE.—Natural whole root, spot: Anatolian, 60s. per cwt.; Russian, 40s.; Syrian, 35s.; Persian, 37s. 6d. Block juice quotations are 200s. per cwt. delivered. Italian stick, from 310s. to 475s. per cwt., duty paid.

LOBELIA.—Herb is quoted at 3s. 6d. per lb. on the spot.

MACE.—West Indian pale blade is 9s. per lb.; for shipment, 7s. 10d., c.i.f.

MENTHOL.—Spot. Chinese is about 28s. 6d. per lb., duty paid; 27s. in bond; and 26s., c.i.f.

MERCURY.—Nominal spot value is £100 per flask (76-lb.), ex warehouse.

MYRRH.—Aden selected sorts are about £14 per cwt. on the spot. Siftings are from £7.

NUTMEGS.—West Indian 80's quoted at 2s. 9d. per lb. on the spot and 2s. 7d., c.i.f., for shipment.

ORANGE PEEL.—Bitter quarters. Spanish quoted at 1s. 10d. and West Indian at 1s. 1d. per lb. on the spot. Bitter ribbon 1s. 2d.

ORRIS ROOT.—Florentine on the spot is 185s. per cwt.; *pro infantibus*, 8s. per lb.

PAPAIN.—Spot value for East African grade one is 20s. per lb. Ceylon white is in limited supply at 24s.

PEPPER.—Steady. White Sarawak is 5s. 6d. to 5s. 7½d. per lb., spot with affloat parcels quoted at 4s. 3d. to 4s. 9d., c.i.f. Black Sarawak is unchanged at 4s. 6d. spot and affloat, 3s. 3d. to 3s. 7½d., c.i.f. Black Malabar, 540s. per cwt., spot.

PODOPHYLLUM.—*Peltatum* is 336s. per cwt. on the spot. *Emodi* is 140s.

QUASSIA.—Spot quotations for chips are about 45s. Supplies are very short. No offers coming forward.

RAUWOLFIA (SERPENTINA).—Spot supplies are nominal; shipment offers withdrawn.

SANDARAC.—Moroccan is 12s. 9d. per lb. on the spot.

SARSAPARILLA.—Business has been done in Jamaican native red at 2s. 6½d. per lb., c.i.f. Spot is about 2s. 9d.

SEEDS.—(Per cwt.). **ANISE.**—Cyprian, 165s. spot; Bulgarian, 135s., duty paid. **CARAWAY.**—Dutch continues to be neglected at 145s., duty paid in London, and 118s., c.i.f. for prompt shipment. **CELERY.**—Sellers of Indian, asking 180s. spot and are willing to consider near bids in view of the low price quoted for shipment. **CORIANDER.**—Market continues steady. Spot Moroccan is 60s., duty paid and 55s. in bond. English is nominal 75s. Shipment, Morocco is offered at 48s. 6d., c.i.f. for July-August shipment. **CUMIN.**—Small business reported for export. Spot: Cyprian, 125s. Moroccan, 127s. 6d., duty paid (112s. 6d., in bond). Shipment (new crops): Moroccan is now 105s. to 108s., c.i.f. quoted; Cyprian, 115s., c.i.f. **DILL.**—Indian offered at 87s. 6d., spot London. **FENNEL.**—Market continues quiet. Spot:

Indian is 90s., and Chinese 87s. 6d. sellers. **FENUGREEK.**—Market remains steady with business passing on spot at 47s. 6d., duty paid. Shipment, new crop is 35s., c.i.f., for July-August shipment. **MUSTARD.**—English 65s. to 82s. 6d., according to quality.

SENEGA.—Spot market bare. No primary shipment offers. Nominally 15s. 6d. per lb.

SENNA.—*Tinnevely* LEAVES, (per lb.) prime No. 1, 10½d. to 1s. 1d., as to crop; prime No. 2, 9d. to 11d.; prime No. 3, 7½d.; f.a.q., No. 3, 6½d.; PODS, f.a.q., 6½d. to 6¼d.; hand-picked, 1s. 4d. to 2s. *Alexandrian* manufacturing pods, 1s. 10d., spot and 1s. 7d., c.i.f.; No hand-picked spot or forward.

SERPENTARIA.—Root is offered at 37s. per lb. on the spot.

SHELLAC.—Spot quotations are:—F.O.T.N. pure, 330s.; F.O. standard No. 1, 355s., nominal; fine orange, 370s. to 400s. per cwt., ex-London warehouse.

SQUILL.—Italian on the spot is 76s. per cwt. and new-crop white for shipment, 55s., c.i.f.

STRAMONIUM.—Indian LEAVES are 5½d. per lb., spot and European, 97s. 6d. per cwt.

STROPHANTHUS.—*Kombé*, 100 per cent. is about 9s. per lb., on the spot, and *Gratus*, 14s. 6d., nominal with shipment offers at 13s. 6d., c.i.f.

STYRAX.—Spot is 5s. 9d. per lb., duty paid.

TAMARINDS.—Supplies of West Indian are offered at 50s. per cwt., duty paid.

TONKA BEANS.—Frosted Para on the spot are offered at 6s. per lb. and Trinidad, 8s. 9d.

TRAGACANTH.—No. 1 ribbon on the spot is £102 10s. per cwt.; No. 2, £85; No. 3, £65.

TURMERIC.—Madras finger on the spot, 137s. 6d. per cwt. Shipment remains firm at 128s., c.i.f. Rajapore is 125s. 6d., c.i.f.

UVA URSI.—Spot offers are about 85s. per cwt.

VALERIAN.—Indian is 145s. per cwt. on the spot and from 130s. to 145s., c.i.f. Belgian, 185s., spot.

WAXES.—**BEES'**—Dar-es-Salaam. Spot about 525s. nominal, per cwt. July shipment, 500s., c.i.f.; Sudanese, 480s. in bond and 435s., c.i.f.; Abyssinian, spot, 480s. and shipment 435s., c.i.f. Benguella, 480s. in bond, nominal and 435s., c.i.f. **CANDELLA.**—Spot is 637s. 6d. per cwt. **CARNAUBA.**—Prime yellow on the spot is 980s. per cwt., shipment, 925s., c.i.f.; fatty grey is 675s. on the spot; shipment, 647s., c.i.f. **MONTAN.**—Rebeck, crude, 105s. per cwt., spot. **SPERMACETI.**—Case lots are about 1s. 9d. per lb.

WITCH HAZEL.—Leaves on the spot are about 1s. 9d. per lb.

Essential and Expressed Oils

ALMOND.—B.P. is from 6s. to 7s. 6d. per lb., as to quantity.

AMBER.—Rectified on the spot is quoted at from 1s. 6d. per lb.

ANISE.—Spot supplies are offered at 9s. 7½d. per lb. Shipment price quoted at 9s. 4½d., c.i.f.

BAY.—W. Indian is 9s. 6d. per lb. on the spot.

BERGAMOT.—Spot value is about 80s. per lb.

BIRCH TAR.—Rectified is about 14s. per lb. in 1-cwt. lots.

BOIS DE ROSE.—Brazilian on the spot is 30s. and 29s. 6d., c.i.f.

CADE.—Spanish is about 2s. 3d. per lb. on the spot for 1-cwt. lots.

CAJUPUT.—Spot supplies are 15s. 6d. per lb.

CALAMUS.—Imported oils are offering from 75s. per lb.

CARAWAY.—English-distilled is offered at 45s.; imported oils, 32s. per lb.; early shipment.

DILL.—B.P. English-distilled oil is quoted at 60s. per lb. Imported oils are offered at from 32s. 6d. per lb.

EUCALYPTUS.—Australian 70 to 75 per cent. eucalyptol on the spot is 4s. 10½d. per lb., and 80 to 85 per cent., 5s. 3d. Spanish, 70 to 75 per cent., 4s. 6d., duty paid.

FENNEL.—Spanish sweet on the spot is quoted from 9s. 6d. per lb.

GARLIC.—English is from 55s. to 60s. per oz.

GERANIUM.—Bourbon is 81s. 6d. per lb. on the spot. Shipment, 80s., c.i.f.

GINGER.—English-distilled oil is from 120s. per lb. Imported oils are available at from 80s. to 90s. per lb.

GRAPEFRUIT.—Australian is 14s. 6d. per lb. spot; Californian, cold pressed, 20s., c.i.f., subject to licence.

JUNIPER BERRY.—Imported oils are offered at 17s. 6d. per lb., duty paid. English-distilled is offered at 75s. to 80s. per lb.

LAVENDER.—French, 40-42 per cent. linalol on the spot is from 33s. per lb.

LEMONGRASS.—East Indian is 9s. 6d. per lb. on the spot.

PATCHOULI.—Penang is 58s. per lb. on the spot.

PEPPERMINT.—*Arvensis*: Chinese is 20s. per lb., spot, and 20s., c.i.f., July-August shipment; Brazilian (45 per cent.), 17s. 6d., spot and 17s. 3d., c.i.f. for shipment. Italian "Mitcham" type oil is from 45s. to 47s. 6d. per lb. on the spot.

PETITGRAIN.—Paraguay on the spot is 28s. per lb.

UNITED STATES REPORT

NEW YORK, JULY 20: Demand and shipments have been relatively satisfactory in the U.S. considering the season of the year. CAUSTIC SODA demand shows a moderate increase and the dry forms are a little on the tight side owing to export buying. The weather has kept CALCIUM CHLORIDE in good call with demand at times exceeding production. Chemicals for the synthetic resin field such as GLYCERIN, MALEIC ANHYDRIDE and PHTHALIC ANHYDRIDE have been moving in exceptionally good volume thus far in July.

Following the hardening trend in MENTHOL prices for the synthetic racemic compound have moved up for the first time in many months to \$5.40 per lb. (an advance of 50 cents). Brazilian MENTHOL is now quoted at \$7.40 (up a further five cents). Whole IPECACUANHA ROOT is priced here at \$7.35 per lb. and powdered at \$7.75 (each up 10 cents).

Lower per lb. among CRUDE DRUGS are AGAR AGAR, stripped, number one, at \$3.00 (down 25 cents); BLACKBERRY ROOT BARK at 45 cents (down 5 cents); SASSAFRAS BARK at 45 cents (down 5 cents); and VALERIAN ROOT at 28 cents (down 4 cents). Higher per lb. are FORMOSAN CITRONELLA OIL at 92 cents (up 2 cents), and CLOVE LEAF OIL at \$1.55 (up 5 cents). Lower per lb. among ESSENTIAL OILS are SPEARMINT OIL at \$5.00 (down 10 cents); Italian LEMON OIL at \$5.75 (down 25 cents); and distilled LIME OIL at \$5.75 (down 25 cents).

HOSPITALS ECONOMY EXHIBITION

A lesson in price-consciousness at University College Hospital

AN exhibition organised by Mr. T. D. Whittet (chief pharmacist, University College Hospital, London, W.C.1) in conjunction with the hospitals supplies department, is designed to call the attention of the medical, nursing and administrative staffs to the cost of drugs and dressings, and other supplies issued for use in the hospital and to suggest ways in which economies can be effected.

In a large ward laboratory on the fourth floor, drugs, dressings, surgical instruments and supplies are displayed in conjunction with posters and show-cards setting out the cost to the hospital of average amounts consumed over given periods, and instances of waste offer tacit suggestions as to how that may be avoided. Tables are shown comparing the costs of treatment with different iron preparations and with various sulphonamides, and the varying costs of treatments for pernicious anaemia. In each case groups of illustrative preparations bear individual labels showing their prices. Antibiotics are similarly grouped showing the annual cost of those substances to the hospital to be £13,000. Above a group of bottles of intravenous infusion solutions, a notice draws attention to the fact that such containers, once opened, cannot be re-sterilised, and are therefore wasted, but that containers returned to the pharmaceutical department have often been scarcely used. Attention is drawn, also, to the saving effected by the preparation of such solutions in the pharmaceutical department, an instance being 500 mls of intravenous saline solution shown as "Trade price, 2s. 8d.; U.C.H. production cost 7½d."

The annual cost of vitamins in the hospital is shown as £6 per day, but figures given for 1949 (£2,510), and 1953 (£2,070), show a considerable decrease in consumption over recent years. The weekly dressings order from a surgical ward is shown priced out, at a cost of £6 per week, while the average weekly issue of dressings to the hospital is shown to be £200. One ward's daily drug requisites, put up in the basket ready to return to the ward, have a "bill" attached totalling £1 15s. 3d. A group of partly-used and rejected bottles of solutions of antibiotics bears a notice "Waste—£3 a week."

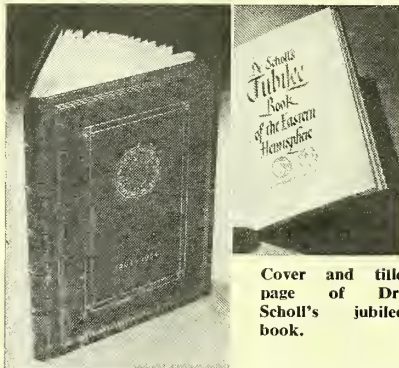
Another feature of the exhibition is the grouping of various items under price-headings. For example, under a poster headed "Items in this group each cost £5," are shown a bottle of chloramphenicol capsules, and a box of eight bottles of penicillin each containing one mega unit. A hundred-yard roll of gauze is shown to cost £1, as is a 540-ml bottle of intravenous dextran solution. Among items at one shilling are forty ounces of lysol and eight ounces of technical ether. Under medical stores are grouped and priced a range of instruments, suture materials, syringes and needles, medicine glasses and meas-

ures. Surprisingly, a clinical thermometer is shown to cost only 1s. 6½d.

Grouped together in a box labelled "Pharmacy dustbin—value £2 10s." are one day's rejected and useless stocks returned from the wards. On another card are given statistics of drugs and dressings used in one year, including 320 miles of gauze, 560 gallons of mist. mag. trisilicat. co., and fourteen cwt. of barium sulphate.

JUBILEE TRIBUTE

ON the occasion of the golden jubilee of Dr. William M. Scholl's "foot com-



Cover and title page of Dr. Scholl's jubilee book.

fort" service he recently received congratulations from all over the world. The London company compiled a

handsome leather-bound volume illustrating Dr. Scholl "foot-comfort" shops in over thirty countries in the continents of Europe, Africa, Asia and Australasia, with autographed photographs of the executive staffs and managers in each company. The volume was presented to Dr. Scholl, the founder, by his brother (Mr. F. J. Scholl, managing director of the London company) at recent celebrations in Chicago, U.S.A., at which Mr. E. Temy was also present with representatives from the fifty-seven countries in which the company distributes its remedies and appliances. In addition to attending a two-day sales conference at Chicago and visiting the company's head quarters there, the visitors were taken on a four-state tour of facilities in Wisconsin, Indiana, Ohio and Illinois. At a fiftieth anniversary banquet in Chicago, Dr. Scholl said:

"The reason for whatever success this organisation has enjoyed is that, when we have gone into various countries we have selected our personnel from among their citizens, taught them what we know, and then allowed them to operate the business themselves."



Dr. William Scholl

PROPRIETARY ARTICLES TRADE ASSOCIATION

Meeting of Council

THE quarterly meeting of the council of the Proprietary Articles Trade Association was held on July 8, the president (Mr. H. G. T. Read) in the chair.

THE PRESIDENT congratulated Mr. J. F. Boucher on his election as president of the Association of British Pharmaceutical Industry and Mr. J. C. Bloomfield on his election to the Council of the Pharmaceutical Society.

Prices on Packs

The council considered the views of the manufacturer, wholesaler and retailer sections, on a suggestion from the National Pharmaceutical Union Executive that manufacturers of nationally-advertised proprietary medicines should be asked to mark their products with the retail price including purchase tax where appropriate. The discussion made evident that various factors prevented the general adoption of the method. The council agreed that P.A.T.A. manufacturers should be urged to show the tax-inclusive price where possible, and to indicate the size of the product. It was suggested that the price might be shown by means of a detachable slip.

Wholesalers' discounts, the subject of discussion at the manufacturers' conference in December 1953 (see C. & D., January 23, p. 83), was

considered, and THE SECRETARY gave details of upward revisions in wholesale discounts that had taken place in recent months.

It was reported that during the committee and report stages of the Finance Bill, 1954, certain amendments to the clauses dealing with purchase tax had been tabled (see C. & D., April 24, pp. 413, 425, and May 8, p. 465). Those amendments, if accepted, might have affected the arrangements whereby the system of uniform tax-inclusive retail prices had been made practicable, and steps designed to safeguard the existing position had been taken, with the result that the relevant amendments had been either defeated or withdrawn.

The council gave close attention to the serious price-cutting position which had developed in South-east London. Letters for sending to all P.A.T.A. manufacturers and wholesalers inviting an intensification of their co-operation were approved. The council also authorised the publication of a warning to retail chemists approached for supplies by price-cutters or their agents.

The secretary reported that it had been necessary to authorise a number of additions to the stop list and that that indicated an increase in price-cutting. Since the April meeting about 330 calls and 500 test purchases had been made.

CENSUS OF DISTRIBUTION

Pharmaceutical information from second volume of report

THE second volume of the report of the Board of Trade's Census of Distribution and Other Services, 1950, was published on July 22 (H.M. Stationery Office, price 22s. 6d.). Volume 1 of the report was published in August 1953 (see *C. & D.*, 1953, 2, 203). While the first volume gave details of the retail trade in all individual towns of 2,500 population and over, the present volume gives less geographic detail but breaks down the information more completely. For example, it gives a detailed analysis by regions of persons engaged, showing how working proprietors and unpaid helpers (members of an owner's family) are divided between male and female, full- and part-time, with similar details for employees, and in addition, how many of the full-time male and female employees were under eighteen years old. The figures for pharmacies for Great Britain as a whole are shown in Table 1 below.

Table 1

NUMBER OF PHARMACIES	13,486
SALES	£144,341,000
PERSONS ENGAGED	72,943
WORKING PROPRIETORS AND UNPAID HELPERS:	
Full-time male	7,026
Full-time female	974
Part-time male	340
Part-time female	1,215
PAID EMPLOYEES:	
Full-time male	
total	18,899
under eighteen	1,143
Full-time female	
total	34,679
under eighteen	7,703
Part-time total	9,810
male	1,951
WAGES AND SALARIES	
week	£311,000
year	£17,343,000
BONUSES, ETC. (year)	£809,000

Other features of the report are the grouping of business by sales according to town sizes; and by form of organisation (i.e., number of establishments making up the organisation) by regions and by town-size groups. A table giving estimated sales of goods by commodity groups shows that for pharmacies with annual sales of more than £5,000, 87.4 per cent. of sales were of drugs and toiletries; 4.2 per cent. of photographic goods; 1.5 per cent. of fancy goods; 0.7 per cent. of alcoholic drinks; 0.6 per cent. of seeds, fertilisers, etc.; 0.5 per cent. of cigarettes, tobacco, etc.

Table 2 below shows pharmacies in Great Britain grouped by persons engaged and sales.

Table 2

PHARMACIES	PERSONS ENGAGED		SALES £'000
	FULL-TIME	PART-TIME	
345	329	7	976
1,945	3,383	499	8,995
3,074	7,656	1,554	19,586
2,752	8,808	2,192	21,800
2,811	11,842	3,198	28,597
1,413	9,095	1,824	20,967
954	11,663	1,364	24,674
133	4,096	298	8,858
59	4,706	429	9,888

The amount of sales per person engaged is a figure which the pharmacist can calculate readily for his own business. Table 3 below, extracted from the report, enables him to compare the result with other businesses. It should be noted that the proportion of part-time workers in the smaller businesses tends to reduce the average sales per person engaged. In large businesses where transport workers and warehousemen, etc., are on the payroll, the sales per head are correspondingly reduced.

Table 3

SALES	SALES PER PERSON ENGAGED		
	For one quarter of the organisations lies below	For one half of the organisations lies below or above	For one quarter of the organisations lies above
Under £1,000	£ 260	£ 490	£ 760
£1,000-£2,500	810	1,100	1,480
£2,500-£5,000	1,180	1,500	1,910
£5,000-£10,000	1,540	1,860	2,280
£100,000 and over	1,850	2,220	2,650

Table 4

	PHARMACIES	SALES £'000	WAGES AND SALARIES £'000	GROSS MARGIN AS PERCENTAGE OF SALES	WAGES AND SALARIES (YEAR) AS PERCENTAGE OF	
					SALES	GROSS MARGIN
Organisations with working proprietors ...	8,093	60,842	5,152	30.4		
Organisations without working proprietors ...	4,667	76,014	13,195	31.7	17.4	54.8

Table 5

ORGANISATIONS WITH SALES OF	ORGANISATIONS REPORTING	GROSS MARGIN AS A PERCENTAGE OF SALES		
		FOR ONE QUARTER OF THE ORGANISATIONS LIES BELOW	FOR ONE HALF OF THE ORGANISATIONS LIES BELOW OR ABOVE	FOR ONE QUARTER OF THE ORGANISATIONS LIES ABOVE
Under £1,000	26	25.0	33.2	46.3
£ 1,000-£ 2,500	254	25.3	30.7	35.5
£ 2,500-£ 5,000	1,741	26.0	30.0	33.9
£ 5,000-£ 10,000	3,874	26.3	30.2	34.1
£ 10,000-£ 25,000	2,182	26.2	30.3	34.2
£ 25,000-£ 50,000	262	27.2	30.5	33.9
£ 50,000-£100,000	57	27.3	29.4	31.7
£100,000 and over	28	29.5	31.7	34.5

PRINT AND PUBLICITY

Periodicals

CHILEAN IODINE EDUCATIONAL BUREAU, Stone House, Bishopsgate, London, E.C.2: *Current Iodine Literature*, No. 10, 1954, *Iodine Information*, No. 42, Pp. 16.

INNOXA (ENGLAND), LTD., 1 Eden Street, London, N.W.1: *The Innoxia Approach*, Vol. 2, No. 7, July 1954, Pp. 4.

MANESTY MACHINES, LTD., Speke, Liverpool, 19: *News Letter* No. 54 (Pp. 2).

PARKE, DAVIS & CO., LTD., Hounslow: *Therapeutic Notes*, No. 3, 1954, Special issue to mark the opening of the research and administration building.

POWERS-SAMAS ORGANISATION, 88 High Holborn, London, W.C.1: *Powers-Samas Magazine*, Vol. 20, No. 4, April 1954, Pp. 14.

ROCHE PRODUCTS, LTD., 15 Manchester Square, London, W.1: *The Roche Challenge*, Vol. XX, No. 5, 1954, Pp. 4.

STYRENE CO-POLYMERS, LTD., 1 Roebuck Lane, Sale, Manchester: *Scop*, Vol. 1, No. 4, April 1954, Pp. 4, plus 2-p. special insert.

WILLIAM MASON & SON, LTD., Geldud Road, Leeds, 12: *Shop*, June 1954, Pp. 12.

Show Material

EVANOL, LTD., Highbury, London, N.5: Shade cards for Simplex Hair Dyes. Counter show cards for Evanol.

INNOXA (ENGLAND), LTD., 1 Eden Street, London, N.W.1: Display stand, 9½ in. high, 18 in. wide, 6 in. deep, in light blue or black with gold stripes. Showcard for Fashion Cream.

PHILIPS ELECTRICAL, LTD., Century House, Shaftesbury Avenue, London, W.C.2: Double-crown poster, 30 x 20 in. reproduction of that at present being used on London Underground sites, in seven-colour photo-litho. Box crowner, 6½ x 6 in., in three colours on white card. Cut-out showcard, 9½ x 7 in., in red and blue on paper with a wood-veneered finish, with embossed lettering and double struts at rear supporting a small shelf to take the Philishave razor.

Booklets and Leaflets

CRODA, LTD., Croda House, Snaith, Goole, Yorks: "Wool grease and wool grease derivatives," "Croda Lanolin Derivatives" (4-p. booklets).

TIN RESEARCH INSTITUTE, Fraser Road, Greenford, Middlesex: Report, 1953, Pp. 24.

TRADE MARKS

APPLICATIONS ADVERTISED BEFORE REGISTRATION

From the "Trade Marks Journal," July 7
For adhesive substances used in industry (1)
BELPRO, 728,535, by Belastic Products (London), Ltd., London, S.W.12. EVO-STIK, Our Work Your Bond, 729,302, by Evode, Ltd., Stafford.

For emulsions of fats for medicinal use by oral administration (5)
EDIOL, 727,484, by Schenley Laboratories, Inc., New York, U.S.A.

For pharmaceutical preparations and substances (5)
DIPASIC, 728,000, by Ed. Geistlich Sohn, A.G., Fur Chemische Industrie, Wohlen, Switzerland. APERIGRAN, 729,588, by Fletcher, Fletcher & Co., Ltd., London, N.7. CELLUSENA, 729,647, by Dr. Earl S. Sloan, Ltd., London, W.4.

For pharmaceutical preparations and substances all in tablet form (5)
NUFERTABS, 728,143, by The British Drug Houses, Ltd., London, N.1.

For preparations of iodised minerals being nutritional aids for use by addition to animal feeding stuffs (5)
GOLDEN MILLER, B728,364, by Maritime Fish, Ltd., Fleetwood, Lancs.

For scientific instruments (9)
PHIL-TROL, 722,936, by Phillips Control Corporation, Illinois, U.S.A.

For toilet paper (non-medicated) and paper towels (16)
WALDORF, 726,908, by Scott Paper Co., Pennsylvania, U.S.A.

From the "Trade Marks Journal," July 14
For chemical substances (other than colouring substances) used in dyeing leather in the course of manufacture (1)

DERMINOL, 717,554, by Farbwerke Hoechst, A.G., Vormals Meister Lucius & Bruning, Frankfurt-am-Main-Hoechst, Germany.

For chemical substances for use in the manufacture of animal feeding stuffs (1)
ADVITAMIX, 723,271, by Advita, Ltd., London, E.C.4.

For dyeing auxiliaries being chemical products for use in the leather industry (1)
DECALTAL, 728,578, by Badische Anilin & Soda-Fabrik, A.G., Ludwigshafen-on-Rhine, Germany.

For soil conditioning preparations for use in agriculture and horticulture and fertilisers (1)
HUMUCIL, 728,771, by Seaborne Trading Co., Ltd., London, W.C.1.

For chemical products used in agriculture and horticulture (1)
ASCARAWAY, 729,099, by Boots Pure Drug Co., Ltd., Nottingham.

For chemical products for use in industry (1)
MYSTOX, 729,389, by Catomance, Ltd., Welwyn Garden City, Herts.

For photographic chemicals and photographic sensitised materials (1)
Rectangular device with the word Kodak, 729,440, by Kodak, Ltd., London, W.C.2.

For soap powders for laundry use (3)
DRYSO, 721,740, by J. Evershed & Son, Ltd., Sussex.

For toilet soap (3)
Willow pattern device, 716,854, by Peter Lunt & Co., Ltd., Liverpool, Lancs.

For perfumes, non-medicated toilet preparations and preparations for the hair (5)
GRAYONO, 728,607, by Ove Charles Frederiksen, Copenhagen, Denmark. NOA-NOA, 730,255, by Helena Rubinstein, Ltd., London, W.1.

For bleaching agents, colouring matters, colour brightening agents and optical bleaching agents all for laundry use (3)
Device of cameo in circle, 729,045, by Maybourn Products, Ltd., London, S.E.26.

For all goods (3)
DIRDREX, 729,550, by Jabez Jackson Hainsworth, Belfast.

For non-medicated toilet preparations for men (3)
GROSVENOR and oval device, 729,093, by Beauty Counselors of London, Ltd., London, S.W.1.

For pharmaceutical preparations in tablet form for use in the treatment of rheumatism (5)
RUMABAN, 719,509, by Walkers' Victoria Pharmacy, Ltd., Scarborough, Yorks.

For all goods (5)
MERSOBEN, 725,030, by Ciba, Ltd., Basle, Switzerland. MINOMAL, 730,230, by Imperial Chemical (Pharmaceuticals), Ltd., London, S.W.1.

For chemical substances for pharmaceutical, veterinary and sanitary purposes (5)
PIXALBOL, 726,927, by Knoll, A.G., Ludwigshafen-on-Rhine, Germany. ARBUNOX, 727,218, by Willows Francis Pharmaceutical Products, Ltd., London, E.8. TESTENATE, TESTENOL, 730,455-6, by Organon Laboratories, Ltd., London, W.C.2.

For medicated socks for surgical and curative purposes (5)
SURGISOX, 727,084, by C. J. Plucknett & Co., Ltd., London, S.E.7.

For medicated peppermint tablets (5)
DIGESTOMINTS, B727,849, by Frank Kingham, Leeds.

For pharmaceutical preparations and substances (5)
TETRAZETS, 727,956, by Sharp & Dohme, Ltd., Hoddesdon, Herts. PHENODEX, 729,223, by C. L. Bencard, Ltd., London, S.W.1. GLOMAX, 729,928, by International Chemical Co., Ltd., London, N.16. HEPTALINE, 730,118, by Neodrog, Seine, France. BEECOVELS, 730,230, by John Richardson & Co. (Leicester), Ltd., Leicester.

For medicated preparations for the scalp, and deodorants (5)
RICHARD HUDNUT, B728,224, by Richard Hudnut, Ltd., London, W.4.

For antibiotics being pharmaceutical preparations for human use and for veterinary use (5)
DIMYCIN GLAXO, 728,640, by Glaxo Laboratories, Ltd., Greenford, Middlesex.

For sulphonamides and substances containing sulphonamides, all being for veterinary use and for export (5)
VETSULFA, B728,650, by Imperial Chemical (Pharmaceuticals), Ltd., London, S.W.1.

For preparations of proteins and mineral substances for use as nutritional aids by addition to pig foods (5)
PORCUS, B729,908, by Porcus Vitamin Fodder Co., Ltd., Bristol.

For non-medicated socks for surgical and curative purposes and having orthopaedic pads attached (10)
SURGISOX, 727,085, by C. J. Plucknett & Co., Ltd., London, S.E.7.

C. & D. WEEKLY LIST OF PRICE CHANGES

I.R.P.—Inclusive Retail Price; *—Tax 25 per cent.; †—Tax 75 per cent.

NEW PRODUCTS AND PACKS
BIOREX LABORATORIES, LTD. I.R.P.
Biofargate-B tablets, 100 5 6

EVANS MEDICAL SUPPLIES, LTD.
Nobecutane 250 mls 17 6

FORD JACKSON & CO. (SALES), LTD.
Doz.
Anita's hair lacquer† 13 0 2 6
Polythene spray 10 6 1 3

RICHARD HUDNUT, LTD.
No. 612 Flatter Glo† 32 0 6 0
No. 610 "flatter face"† 50 0 9 6
No. 611 "refill"† 25 3 4 9
No. 635 Sophisti-creme† 45 0 8 6
No. 568 lipstick† 45 0 8 6
No. 550 "refill"† 20 0 3 9
No. 513 bloom cream 36 0 6 9
No. 632 Creme Superbe† 50 0 9 6
No. 676 Basic Dew foundation lotion† 36 0 6 9

No. 609 skin freshener† 36 0 6 9
No. 621 cleansing cream†, large 44 0 8 3
No. 623 small 30 0 5 9

THOMAS KERFOOT & CO., LTD.
Doz.
Kik* 24 0 3 6

PARKE, DAVIS & CO., LTD.
Chloromycetin intramuscular r/c vial 2 gm. 18 0

GEORGE SALTER & CO., LTD.
No. 50D dietary scale 90 0

P.A.T.A. PROTECTED LIST
(Prices notified this week by the Proprietary Articles Trade Association.)

CONTINENTAL LABORATORIES, LTD.
(new size)
Neutrephylline tablets* 0.2 gm., 250 440 0 63 10

WILLS

MR. T. F. HUTCHINGS, 218 Kingsway, St. George, Bristol (area supervisor of H. W. Carter & Co., Ltd., and during the 1939-45 war, south-western regional secretary of the Soft Drinks Industry (War-time) Association, Ltd.), left £19,228 (£16,917 net).

MR. J. A. NICHOLS, M.P.S., 2 Bright Street, Consett, co. Durham (a former secretary of the Durham County Branch of the Pharmaceutical Society, and manager of Patricks (Pharmaceuticals), Ltd., Consett), left £4,405 (£4,354 net).

MR. F. B. CROCKART, Dunroon, Keay Street, Blairgowrie, who qualified as a chemist and druggist in 1908, left £3,067.

MR. E. GERRISH, 12 Hills View, Braunton, Devon, who qualified as a chemist and druggist in 1896, left £7,891 (£7,799 net).

MR. H. GREGSON, M.P.S., 216 Queens Road, London, S.E., left £15,013 (£11,234 net).

MR. J. HARBINSON, M.P.S., Balmenoch, Crescent Avenue, Whitby, Yorks, left £10,390 (£10,299 net).

MR. W. W. HUNTER, M.P.S., 11 Montagu Avenue, Newcastle-upon-Tyne, left £73,390 (£73,127 net).

MR. E. R. JONES, 205 Hangleton Road, Hove, Sussex, who qualified as a chemist and druggist in 1897, and passed the Pharmaceutical Chemist qualifying examination in the same year, left £4,241 (£4,183 net).

MR. G. H. MARSDEN, M.P.S., Lyntree, Intake Lane, Cromford, Matlock, Derbyshire, left £624 (£585 net).

MR. E. MILLER, M.P.S., 85 Coventry Road, Bedworth, Warwick, left £465.

MR. T. MILLER, M.P.S., 3 Wyngate Road, Hale, Ches, left £3,400 (£3,334 net).

MR. R. D. K. MORRIS, M.P.S., 227 Dorchester Road, Weymouth, Dorset, left £6,576 (£1,922 net).

MR. W. J. F. RANSON, M.P.S., 78 Picton Avenue, Runcorn, Ches, left £1,650 (£399 net).
MR. G. A. THOMAS, M.P.S., 16 Caterham Road, Lewisham, London, left £2,169 (£2,103 net).

MR. W. J. WARD, 32 High Road, Warmsworth, Doncaster, who qualified as a chemist and druggist in 1891, left £2,439 (£2,107 net).

COMING EVENTS

Sunday, July 25

PORTSMOUTH CHEMISTS' ASSOCIATION, George Inn, Portsdown Hill, at 2 p.m. Assemble for car treasure hunt.

Monday, July 26

IRISH DRUG ASSOCIATION, Jury's Hotel, Dublin, at 8 p.m. Annual meeting.

SHEFFIELD PHARMACY CLUB, Trippet Lane, Sheffield, at 7.30 p.m. Assemble for visit to the international gliding contests at Great Hucklow, Derbs.

HAY FEVER—

relieve the congestion with

NEOPHRYN



This powerful nasal decongestant is now available as a spray.

Neat and unobtrusive, the new 'Neophryn' nasal spray can be carried in the pocket or handbag and is always available when needed. It has a special micro-jet tip designed to give an adequate dose of 'Neophryn' in a fine even spray.

Chemists can confidently recommend 'Neophryn'—the safe decongestant.

Price:- Trade, 2/4d.

Retail 3/6d.

Exempt from Purchase Tax.

'Neophryn' Nasal Drops and 1% solution (for specialist practice) are also available.

NEOPHRYN

Trade Mark

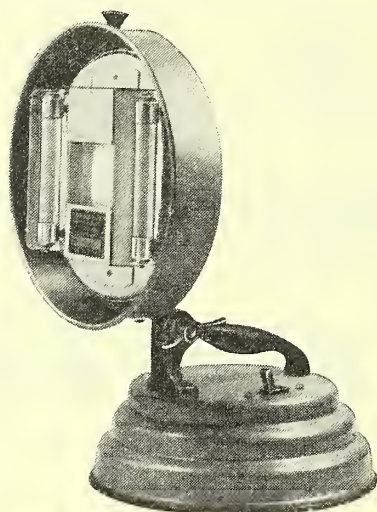
Manufactured in England by

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PRODUCTS LTD., Africa House, Kingsway, London, W.C.2

Associated export company: WINTHROP PRODUCTS LIMITED, LONDON.

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FINE
RANGE
OF
HEALTH
LAMPS . . .



THE
Barber 365 MODEL

Combined Ultra - violet and Luminous Heat Lamp, incorporating a powerful pure fused quartz mercury vapour burner of the high pressure type and infra - red/luminous heat generators. For operation on 200/250 volts A.C. or D.C. mains supply.

Scientifically designed, well constructed and guaranteed for 12 months.

Supplied in strong carton complete with operating instructions, treatment chart and protective goggles.

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*Handled by Approved
Distributors throughout
the country.*

Apply today for details and literature.

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Another Health Lamp of outstanding value is the POPULAR Infra-red Model — well built and inexpensive — 90/- retail. The most competitive Infra-red Lamp on the market.

Produced under rigid laboratory control by:
BARBER ELECTRICAL SERVICES LTD.,
LEACH STREET · BIRMINGHAM, 16

Telephone: EDGbaston 3511 (PBX)

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Fine Chemicals



HYDROGEN PEROXIDE

Benzoyl Peroxide, Calcium Peroxide
Magnesium Peroxide, Zinc Peroxide

Urea Hydrogen Peroxide

Sodium Perborate

Sodium Percarbonate

Persulphates

Titanium Dioxide

Barium Sulphate B.P.

Sodium Lauryl Sulphate

Emulsifying Waxes

LAPORTE CHEMICALS LTD., LUTON
Phone: Luton 4390 Grams: "Laporté Luton";

'SURCO'

**SURGICAL ELASTIC
HOSIERY**

**SEAMED. SEAMLESS.
TWO-WAY STRETCH.
ELASTIC NET.**

**SURGICAL BELTS
TRUSSES AND SUNDRIES**

Over 60 years' service of everything surgical

SURGICAL HOSIERY CO., LTD.

Russell Street, NOTTINGHAM

Telephone No. 75903

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The B.O.C. introduces

Calona

(Regd. Trade Mark)

SODA LIME

BETTER THAN ANY

- BETTER ABSORBENT PROPERTIES
- LONGER EFFECTIVE LIFE
- WIDER RANGE OF APPLICATION

Calona possesses characteristics so far in advance of any other carbon dioxide absorbent as to make it essentially a new product ; it is prepared to the stringent specification of the B.O.C. Research Laboratories.

Calona complies with the B.P. specification, except that the granule sizes are between 4 and 8 mesh (B.S.S.). This mesh size has been shown to give the best performance in Anaesthesia, compatible with low resistance to breathing. Though primarily produced for carbon dioxide absorption in Closed Circuit Anaesthesia, Calona is also most suitable for other medical applications, such as Oxygen Therapy, Basal Metabolism Estimation, Respirators, etc.

Calona is delivered in metal canisters with easy-flow pouring lips and airtight screw caps. These canisters are damp proof and not easily crushed . . . available in 1, 9 and 36 lb. sizes.



ALL ENQUIRIES SHOULD BE SENT TO :

THE BRITISH OXYGEN CO. LTD

MEDICAL DIVISION

Great West Road
Brentford
Middx.

SERVICE AS UNIVERSAL AS THE NEED





**"this big new
DALMAS campaign
will mean bigger
sales for me..."**

Regular, forceful advertising will bring the advantages of DALMAPLAST home to millions of potential customers every week. Starting this month, advertisements will appear in the popular and women's magazines:— "Picture Post," "Illustrated," "John Bull," "Family Doctor," "Woman," "Woman's Own," "Woman's Weekly," "Woman and Home," "Housewife," "Nursery World," "Wife and Home" and many others.

**so I'm stocking up
NOW with**

DALMAS
PLASTER
WATERPROOF

FIRST-AID DRESSINGS

DALMAS LTD., LEICESTER AND LONDON. ESTD. 1823

BISMUTH CARBONATE

in the treatment of

DYSPEPSIA

ensures

- **RAPID** Symptomatic Relief
- **SUSTAINED** gastric neutralisation
- **CONTINUAL** protection of the gastric mucosa
- **EARLY** correction of peristalsis

Complete literature, and samples of bismuth carbonate for trial, will gladly be despatched on request to—

MINING & CHEMICAL PRODUCTS LTD.

Bismuth Research Dept.,
86 STRAND, LONDON, W.C.2

To introduce

NURSE HARVEY'S BABY POWDER

the powder containing pure

OLIVE OIL

we are embarking on a strong campaign in the women's magazines, reaching over eight million readers

**EVERY MOTHER
IN THE COUNTRY
WILL KNOW ABOUT THIS
OLIVE OIL BABY
POWDER!**

*through the forth-
coming continuous
advertising.*

**BE READY TO SATISFY
THE GROWING DEMAND
FOR THIS EXCELLENT
LINE. SOMETHING NEW
IN TOILET POWDERS.**

*Generous trade terms and attractive
display material available from —*

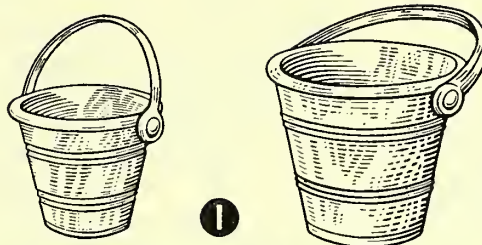
O. Scruton & Co. Ltd., York



MADE BY THE MAKERS OF THE FAMOUS NURSE HARVEY'S MIXTURE

CANNON RUBBER

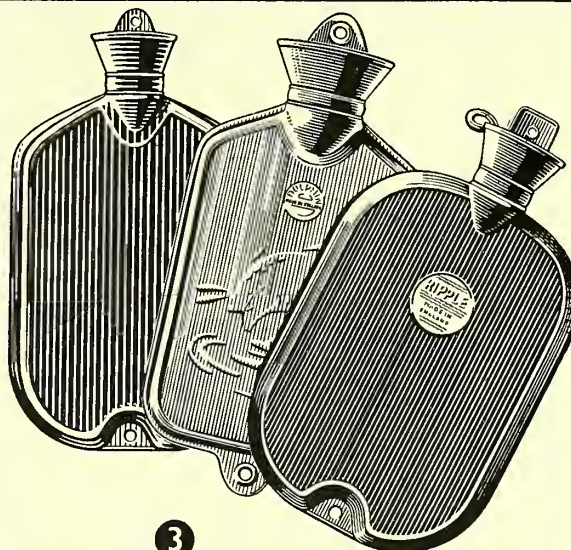
QUALITY AND VARIETY



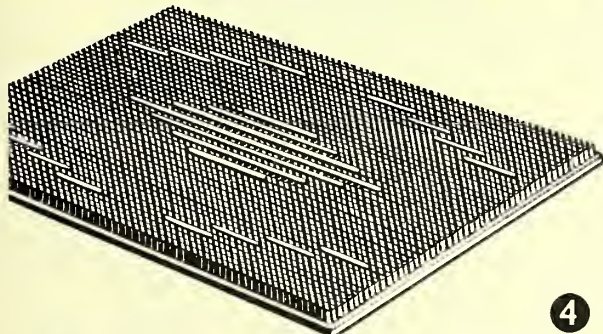
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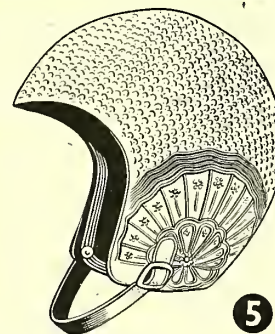


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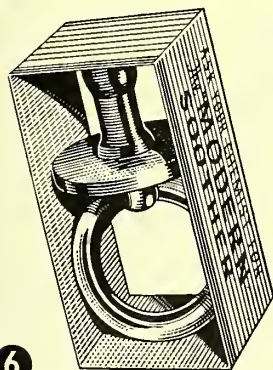


4

- 1 RUBBER BUCKETS
- 2 CHILDREN'S HOT-WATER BOTTLES
- 3 HOT-WATER BOTTLES
- 4 MULTI-PURPOSE MAT
- 5 BATHING CAPS
- 6 'MODERN' SOOTHER
- 7 'MODERN' TEAT



5



6



7

The family of Cannon Rubber products is always increasing. The range includes the world famous MODERN teats and soothers, the CAPITOL series of bathing caps and RIPPLE and DOLPHIN Hot Water bottles. Popular with children are the NOAH'S ARK ANIMAL and COTTAGE DOLL hot water bottles in novelty boxes. Cannon products give long, safe service and are made of the highest quality rubber.

NEW! Multi-purpose RUBBER MAT in green, blue, black or terra-cotta. Sturdy $\frac{1}{2}$ -inch rubber brush pile; $20\frac{1}{2}$ x $14\frac{1}{2}$ inches. For car, kitchen, door and many other uses.

Also the colourful RUBBER BUCKET. Cannot rust nor scratch child or parent. Gives happy, lasting play-hours while its flexibility permits easy packing.

Order now through your usual Wholesaler.

THE CANNON RUBBER MANUFACTURERS LIMITED LONDON N17



When your advice is sought

for digestive upsets

Exerting an immediate and prolonged neutralizing action, 'Milk of Magnesia' Tablets are particularly valuable to the chronic or casual sufferer from dyspepsia and acid indigestion.

Pleasantly mint flavoured and

disintegrating readily in the mouth, they require no water to assist assimilation and may conveniently be carried in pocket or purse ready for use whenever the first symptoms of pain or discomfort appear.

'Milk of Magnesia' **TABLETS**

The other Phillips' Proven Products are:—

'Milk of Magnesia' REGD.

Of unsurpassed efficacy in the treatment of a wide variety of conditions associated with gastric acid disturbances.

'Mil-Par' REGD.

A genuinely mild evacuant ideally suited for administration to young infants, the enfeebled, sick or elderly.

Phillips' Dental Magnesia Toothpaste REGD.

A dentifrice of proved efficacy in keeping the teeth scrupulously clean. Contains 'Milk of Magnesia' to neutralize harmful mouth acids.

'California Syrup of Figs' REGD.

Compounded from the natural extracts of senna and figs. A gentle yet efficacious laxative for family use.

THE CHAS. H. PHILLIPS CHEMICAL CO. LTD., 179 ACTON VALE, LONDON, W.3.

*larger
tube
lower
price*

Corvette Brushless — in the extra big tube — is due for an extra big sales boost! Look out for the special advertising — the new window and counter displays for brushless are available NOW.

Anton

Corvette

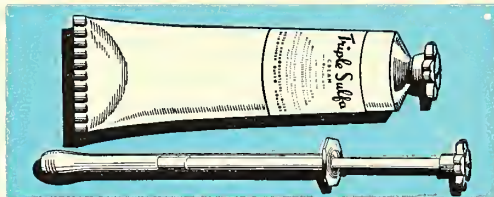
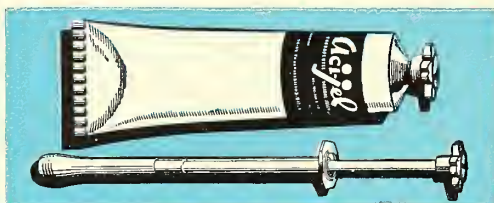
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now only 2'6





*... devoted to the discovery
and development of obstetric
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Aci-Jel: For restoration and maintenance of normal vaginal acidity. Bland, non-irritating highly buffered acid jelly for topical use in treatment of vaginitis.
Aci-Jel: 3 oz. tube with or without applicator.

Triple Sulfa Cream: For bacterial vaginal infections. Combines three sulphonamides with urea peroxide for more effective control of a wide variety of vaginal pathogens. Relieves symptoms promptly, eliminates malodorous discharge.
Triple Sulfa Cream: $1\frac{1}{2}$ oz. tube with or without applicator.

Dienoestrol Cream: Vaginal oestrogen therapy for senile and atrophic vaginitis and postmenopausal pruritis vulvae. Contains 0.1 mg. of the synthetic oestrogen dienioestrol per gram of cream base.
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Massé Nipple Cream: For prevention and treatment of cracked nipples. Contains the safe, effective antiseptic 9-amino acridine and allantoin. Dainty, aesthetic, emollient and healing. Does not interfere with nursing. Ideal for antepartum nipple conditioning and postpartum nipple care.
Massé Cream: 1 oz. tube, individually boxed.

Hexital: For relief of menopausal symptoms. Combines 3 mg. of the synthetic oestrogen hexoestrol with 20 mg. of phenobarbital. Oestrogen effect plus mild sedation provide more complete control of menopausal symptoms.
Hexital: Bottles of 100 and 500 tablets.

Nidoxital: Controls nausea and vomiting of pregnancy with pyridoxine, dl-methionine, nicotinamide, benzocaine, and pentobarbital. Effective relief in 24 to 72 hours in most cases.
Nidoxital: Bottles of 12, 20 and 100 capsules.

Nutri-Sal: A Ringer-type/glucose douche designed to promote fertility in selected cases by virtue of its ability to enhance sperm survival and migration.
Nutri-Sal: Packages of 3 vials, each sufficient for 1 pint douche solution.

Supplies through your usual wholesaler, please!



Ortho Pharmaceutical Limited

HIGH WYCOMBE · BUCKINGHAMSHIRE · ENGLAND
Makers of Gynaecic Pharmaceuticals

NOT JUST ANOTHER LIPSTICK — BUT

a new kind of lipstick

INCREDIBLE INDELIBLE

Sans égal

**it already sells
by millions
on the
Continent!**



6'9
Refills 3'3

In August millions of women here will read about Sans Égal in their favourite magazines. They'll read about an indelible lipstick that costs only 6/9 — an amazing, new-formula lipstick that is already a Continental best-seller. Like women on the Continent, your customers will soon be demanding Sans Égal — and coming back for more when they've proved its amazing indelibility. And it's time to order now!

◀ This beautiful black and red showcard and de luxe shade testing stand is free to all direct buyers.



Sans Égal advertisements will appear in these publications.

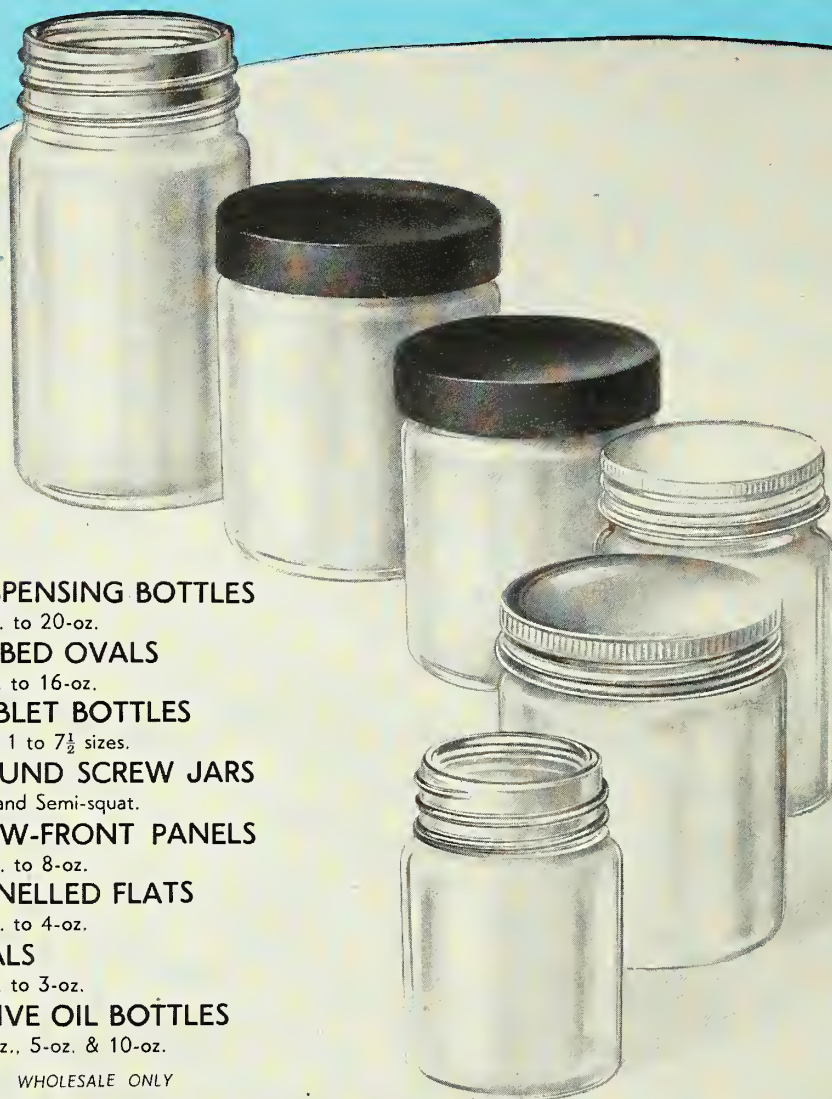
WOMAN	WOMAN'S OWN	MODERN WOMAN
EVERYWOMAN	GOOD TASTE	VANITY FAIR
WOMAN & BEAUTY	WOMAN & HOME	WOMAN'S JOURNAL
BELFAST TELEGRAPH		GLASGOW BULLETIN

And millions of women will hear about Sans Égal on
RADIO LUXEMBOURG'S TOP TWENTY PROGRAMME

SCOTT & BOWNE LTD., SOLE DISTRIBUTORS, 50 UPPER BROOK STREET, LONDON, W.

Quality

in White Flint Glass Containers

**DISPENSING BOTTLES**

1-oz. to 20-oz.

RIBBED OVALS $\frac{1}{2}$ -oz. to 16-oz.**TABLET BOTTLES**Nos. 1 to 7 $\frac{1}{2}$ sizes.**ROUND SCREW JARS**

Tall and Semi-squat.

BOW-FRONT PANELS

1-oz. to 8-oz.

PANELLED FLATS

1-oz. to 4-oz.

VIALS $\frac{1}{2}$ -oz. to 3-oz.**OLIVE OIL BOTTLES**2 $\frac{1}{2}$ -oz., 5-oz. & 10-oz.

WHOLESALE ONLY

NATIONAL GLASS WORKS (YORK) LTD.

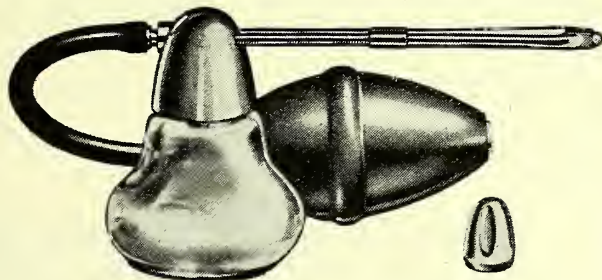
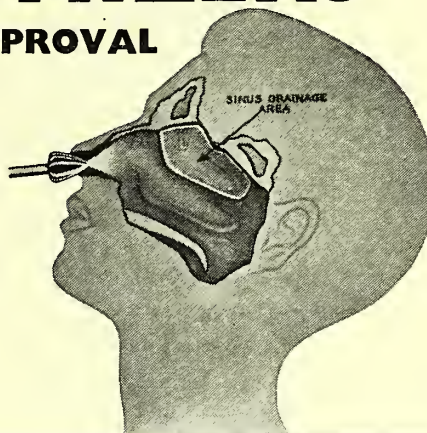
FISHERGATE, YORK. Tel. YORK 3021.
ALSO AT: 105 HATTON GARDEN, LONDON, E.C.1.
TEL. HOLBORN 2146



- Prompt delivery from stock
 - Packed in easily handled cartons
- Bow-Front Panels now also available in 16 oz. size.*

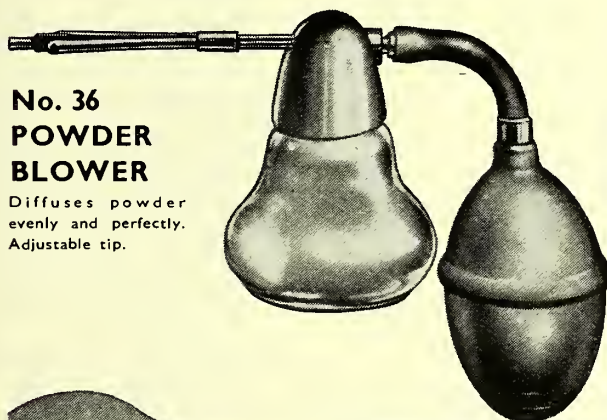
DEVILBISS**MEDICINAL
ATOMIZERS****WITH WORLD WIDE MEDICAL APPROVAL**

DeVilbiss Atomizers are approved and recommended by doctors everywhere, as meeting all medical and hygienic requirements. Designed for simple, efficient operation. Write for details.



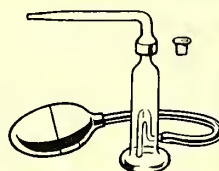
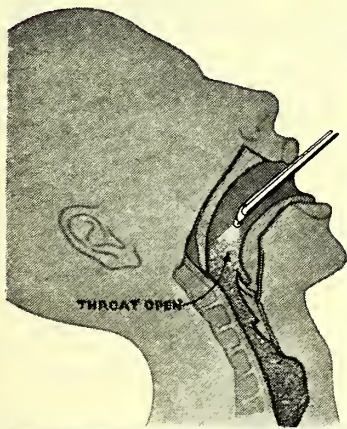
**No. 15
ATOMIZER**

A practical hospital and home use atomizer for applying aqueous and oily solutions. With adjustable spray tip and detachable fluted nasal guard.



**No. 36
POWDER
BLOWER**

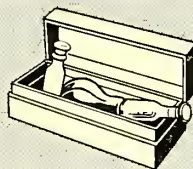
Diffuses powder evenly and perfectly. Adjustable tip.



**ALL-GLASS NEBULIZER
No. 5** For inhalations.
Gives a mist of medium fineness.



**ALL-GLASS
ATOMIZER No. 7**
Suitable for oily or aqueous solutions.



**ALL-GLASS POCKET
NEBULIZER No. 6.** Invaluable to travellers. With a vial to hold extra solution.



**ALL-GLASS
NEBULIZER
No. 40**

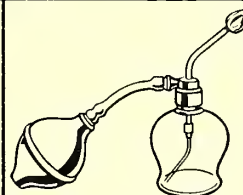
For aerosol therapy. Volume of vapour can be increased by removing the stopper from the vent hole in the side.



**NASAL ATOMIZER
No. 20.** Produces a medium spray for either oily or aqueous solutions.



ATOMIZER No. 82
A nose and throat spray for either oily or aqueous solutions.



ATOMIZER No. 29
Gives a continuous spray, with nasal guard. For oily or aqueous solutions.

**AEROGRAPH CO., LTD.
(ATOMIZER DIVISION)**

LOWER SYDENHAM, LONDON, S.E.26.
TELEPHONE : SYDENHAM 6060 (8 LINES)



PORTRAIT OF A BEST-SELLER

Andrews has the largest sale of any effervescing saline in the world. This is because:—

- The public have confidence in it.
- It has never been sold by exaggerated claims.
- Its packing and keeping qualities are guaranteed.
- It is advertised by a powerful national campaign.

Andrews

for INNER
CLEANLINESS

GT33/d3/53

DISPLAY

Araby

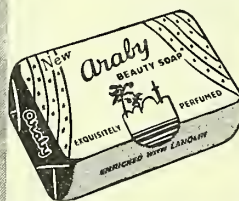
—new advertising brings
growing popularity

She's 3 times as Lovely
WITH *Araby* BEAUTY SOAP
Enriched With Lanolin

Her skin is
beautifully cleansed

Her complexion
is silken-soft

Her skin is supple . . .
ready for make-up



J. BIBBY & SONS LIMITED, KING EDWARD STREET, LIVERPOOL 3



Look at this striking advertisement for Araby. It is one of a series now appearing in the Daily Express, Daily Mirror and Daily Herald—the three national newspapers with the biggest circulations. And in Woman, Woman's Own, Picturegoer and Woman's Weekly, the four woman's magazines with the biggest circulation.

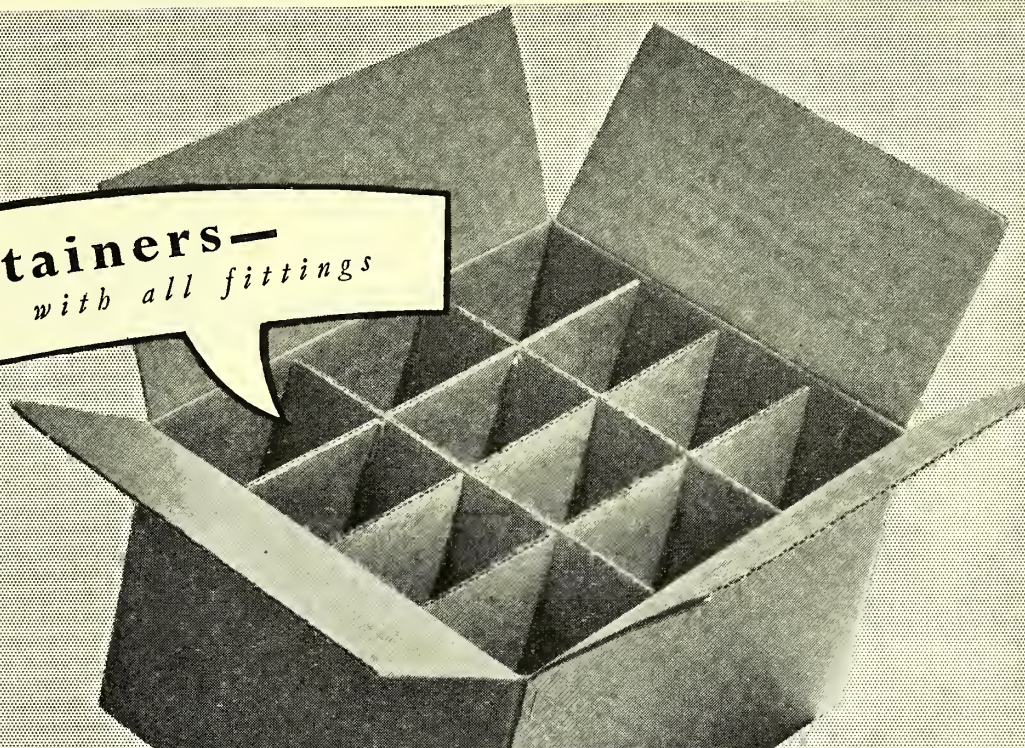
These advertisements are seen by millions of women every week. It is powerful prolonged advertising like this that is making Araby more and more popular every day.

Be in on this growing trade. Reap the maximum advantage from this great publicity drive. Display Araby in the window . . . on the counter.

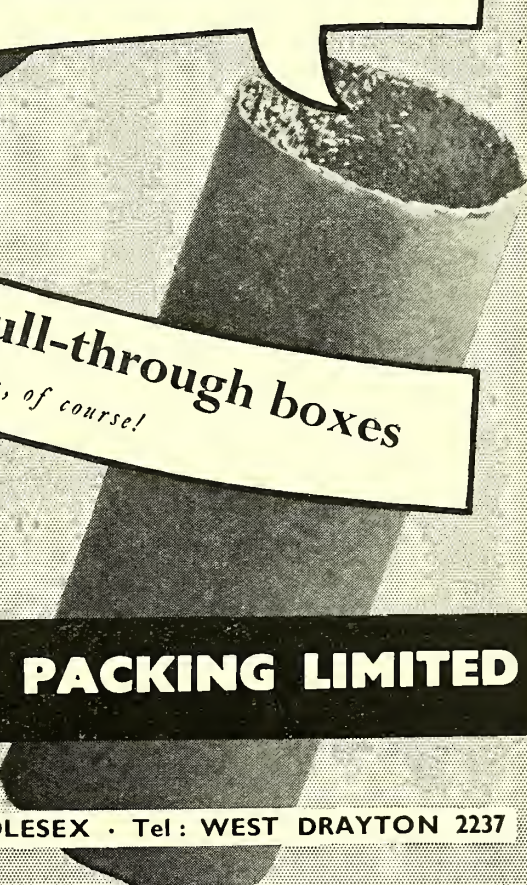


FOR GENEROUS
TRADE TERMS

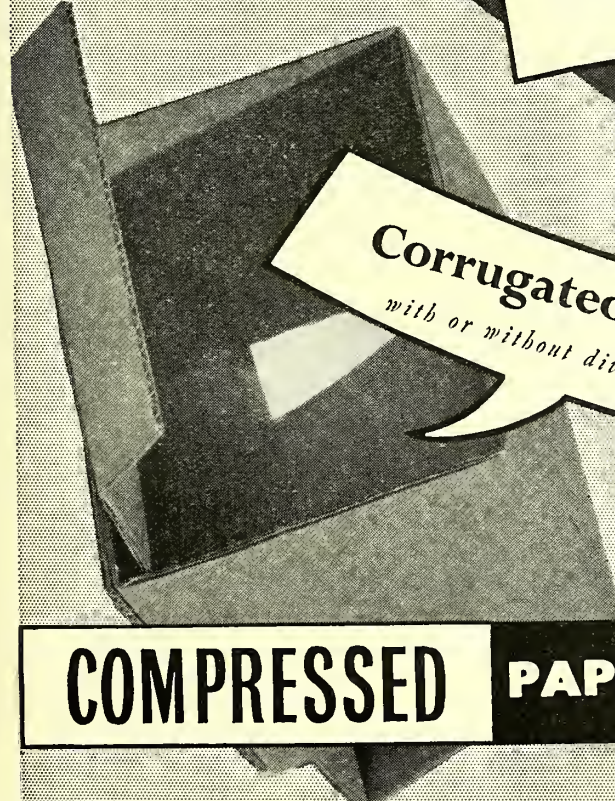
Write for details to your usual wholesaler or to Sales Department
J. BIBBY & SONS LIMITED, KING EDWARD STREET, LIVERPOOL 3



Containers—
with all fittings



Cork Lined sleeves—



Corrugated pull-through boxes
with or without divisions, of course!

COMPRESSED

PAPER PACKING LIMITED

HORTON ROAD • WEST DRAYTON • MIDDLESEX • Tel: WEST DRAYTON 2237



A NEW PRODUCT
with a famous name!

A new product makes news—but the selling appeal is doubled if the product bears a famous name! These NEW Evan Williams "double-purpose" Colour Rinses colour and perfume the hair! Retailing at 5½d each (trade 30/- per gross plus P.T.) and available in six beautiful and popular shades, they're bound to be sure sellers—particularly if you make good use of the compact and attractive point-of-sale display!

Evan Williams
double-purpose
COLOUR RINSES



Sales Dept.: EVAN WILLIAMS Co. Ltd., Aintree Rd., Perivale, Greenford, Mdx.



The name for the best
and the best value in
VACUUM FLASKS

No. 551 4/11 (16 fl. ozs.) No. 552 7/- (24 fl. ozs.)
No. 553 8/6 (30½ fl. ozs.) No. 663 squat 8/6 (36 fl. ozs.)
FROM YOUR WHOLESALE IN CASE OF DIFFICULTY WRITE TO
L. REES & CO. LTD. (ISOVAC DIVISION) 31/35 WILSON ST., LONDON, E.C.2 (MON 2651)



SURE-SELLING STOCK!

OVER 150 YEARS REPUTATION
KEARSLEY'S

THE ORIGINAL

WIDOW WELCH'S FEMALE PILLS

Over 10d BOX PROFIT by ordering 1 dozen
4/1 size. Bonus given on every dozen (13)
It pays to push this size.

Established 1787
in the Reign of
King George III

C. & G. KEARSLEY LTD.
71 DARTMOUTH ROAD, LONDON, S.E.23



HERE'S the STING

Why is Calsol Milk a best seller? because
it doesn't solidify, doesn't separate—
keeps its satin-smooth creaminess on the
beach, in the home—and on your shelves!

HERE'S the THING



CALSOL MILK

made by

JEFFREYS MILLER & COMPANY LIMITED.
LEYLAND MILLS WIGAN

This advertising will bring the public to you



Yes, Sun-tang is made from whole fresh oranges—delicious, different and unique. Once you've tasted Sun-tang, no other orange drink will do. Both you and your children will love it.

In CONCENTRATED or SPARKLING form.

DELICIOUSLY GOOD FOR YOU

"Sun-tang"

Buy a bottle today

MADE BY BARNETT & FOSTER LTD.,
THE MAKERS OF "NIAGARA" BLACKCURRANT SYRUP
DISTRIBUTED THROUGH CHEMISTS, GROCERS, AND ALL MINERAL WATER MANUFACTURERS

Order "Sun-tang" now from your usual wholesaler, or in case of difficulty, write to Barnett & Foster Ltd., Queensbridge Road, London, E.8. Telephone Clissold 7132.
Makers of "Niagara" Blackcurrant Syrup.



DISPLAY
makes the **FIRST** Sale
QUALITY brings
the repeats!

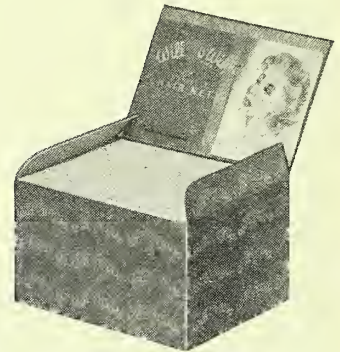
The best of both worlds! In WILL O' WISP you get the fine quality you would expect from a century's experience of making Nets of all kinds. Amazingly strong and long-lasting, due to the special design and unique method of tying the terminals. Tailored to fit the head snugly, practically invisible, in every popular shade—you can rely on WILL O' WISP quality to bring them back for more



Will O'Wisp
THE LUXURY HAIR NETS

From your Wholesaler. In case of difficulty
write for nearest supplier.

SIMON, MAY & CO. LTD. • NOTTINGHAM
Est. 1849



Fine Quality - plus forceful Display

'Harley' Quality Products



BOTH
SELL FOR
1/-

Manufactured by

HAROLD WESLEY
HARLEY MILLS LONDON, N.W.10

WILES CAT FOOD

**PRICE DOWN
QUALITY UP!**



A quick selling line with
a generous profit margin

RETAILS AT **6¹/₂** per can
PRICES ON APPLICATION

C. WILES LTD. WOODMANSEY, BEVERLEY, E. YORKS

TANNIC ACID

AND DERIVATIVES

THE BRITISH DYEWOOD COMPANY LIMITED

19 St. VINCENT PLACE, GLASGOW, CI



Approved by the Family Planning Association for use in conjunction with a mechanical barrier.

GYNOMIN

TRADE MARK

The scientifically balanced antiseptic deodorant contraceptive—in tablet form.

GUIDANCE...

Guidance on methods of family planning is often welcome and does much to remove anxiety and promote a patient's mental and physical well-being. The modern contraceptive, GYNOMIN, inspires confidence with its high spermicidal efficiency. GYNOMIN is absolutely harmless to health, non-greasy and clean in application, and keeps perfectly in all climates.

SPECIAL QUANTITY DISCOUNTS MEAN EXTRA PROFITS

3 doz. tubes at 31/6 per doz. less 5%
6 " " " " " 7½%
12 " " " " " 12½%
Retail price 3/6 per tube of 12 tablets.

Order from your wholesaler.

Regular medical national publicity will bring increasing demands to your pharmacy. Medical literature available to pharmacists on request.

COATES & COOPER LTD *Pyramid Works, West Drayton, Middlesex*

NATIONAL FORMULARY
B.P. and B.P.C.

PASTILLES
AND
LOZENGES

*are always available
in ample supply.*

GIBSON'S SUPER QUALITY

"MECCA" COUGH PASTILLES
GIBSON'S CHOCOLATE WORM CAKES
GIBSON'S LINSEED, LIQUORICE AND
CHLORO. LOZENGES
GIBSON'S SPECIAL CATARRH PASTILLES

ROBERT GIBSON
& SONS LTD.

MANCHESTER & LONDON

JKL
HOME TRADE EXPORT

ALOES
ADONIS VERNALIS
BELLADONNA LEAVES
and ROOT

DIGITALIS LEAVES

and all other Botanicals, Gums,
Waxes, Essential Oils and Spices

JOHN KELLYS (LONDON) LTD.
24 OLD BROAD STREET, E.C.2

Telephone : LONDON Wall 4882, 6585 (3 lines)

Telegrams : "Ergotine, Stock, London"

NEW YORK · HAMBURG

EDME "Autumn Sun"

EXTRACT OF MALT
WITH COD LIVER OIL (B.P.)
WITH FLAVOURING

THE CHOICE OF THE FIRST CLASS CHEMIST

Prices
on
request
P.A.T.A.
list

EDME LIMITED

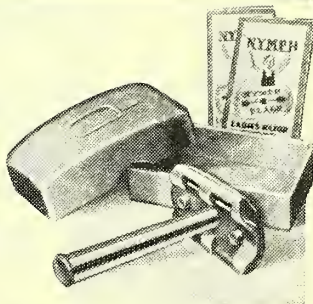
IMPERIAL HOUSE, 84-86 REGENT STREET, LONDON, W.1
Phone: Regent 5563-4 Grams: Edme, Piccy, London. Works: Mistle, Essex

Window
and
Counter
Displays
FREE

It sells on sight!

Don't miss
this ready
profit-maker

If displayed
on your counter
quick sales
are certain



Nymph

*ladies'
safety razor*

Backed by national
full-colour advertising



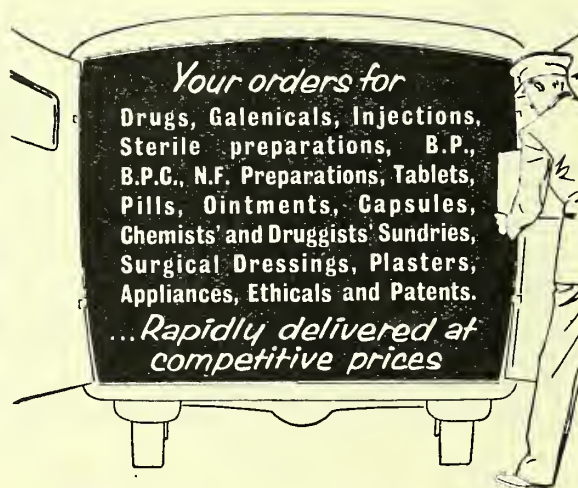
Every woman is a possible buyer of this
dainty toilet accessory. Reasonably priced
at 3/6 to ensure spontaneous purchase!

Complete in moulded case with 2 blades, in
PINK, BLUE, GREEN. "Nymph" Blades
in cartons of 6 blades, 1/5.

Obtainable from your usual wholesaler.

A PRECISION-MADE **SOUPLEX** PRODUCT

SOUPLEX LTD., MORECAMBE, LANCS.



daily delivery

IN THE GREATER LONDON AREA

A comprehensive service for the Pharmacist

BIOREX

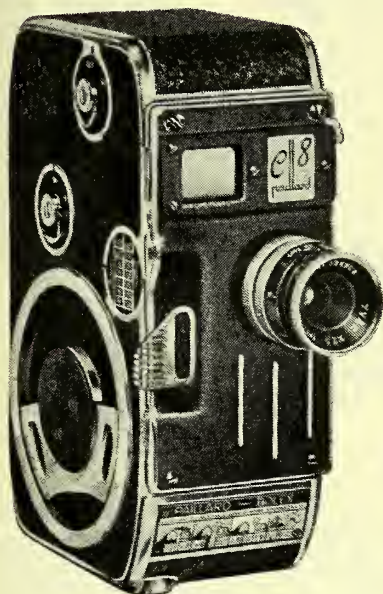


BIOREX LABORATORIES LIMITED

Wholesale and Manufacturing Chemists

47-51 EXMOUTH STREET, ROSEBERY AVENUE, LONDON, E.C.1
Telephones: TEminus 9494, 5216-7

Sell this brand new cine camera with the famous name



Amateur cine enthusiasts delight in keeping their equipment right up-to-date—and they can afford to do so.

These people with money to spend have read all about this brand new cine camera in the A.C.W. Now they are buying, in time for holiday filming.

But that's only half the story as far as you are concerned. Amateur movie making is a fast growing hobby, thanks to the low cost of 8 mm. film, and regular advertisements for the new Bolex C8 are appearing throughout the summer in famous high class journals like "Punch," "Esquire," "The Listener," "Geographical Magazine," "Countryman," etc.

Add to this some of the finest sales literature in the photographic trade, plus trade terms that give you a handsome profit on every camera—and you have a business proposition you must not miss.

Start selling Bolex this season. Get in touch with us now.

BOLEX C8



Sole U.K. Distributors for Bolex Cine Equipment:—CINEX LTD., 9/10 North Audley Street, London, W.1

Back again!



Trade Price: 11/6 per dozen bottles.

Retail: 1/3 per bottle.

Good! It's Mason's
—good for thirst and
good for trade.



A
happy
return

MASON'S EXTRACT OF HERBS

for the home-brewing of refreshing, non-intoxicating herbal beer.

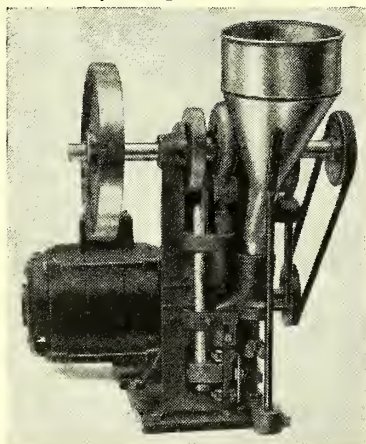
The slogan "Good! It's Mason's," first used in connection with Extract of Herbs, has been famous for upwards of 100 years.

Here, then, is a tried and tested favourite in a new and most attractive pack. Advertising and a healthy thirst create demand.

NEWBALL & MASON LTD
BEECH AVENUE NOTTINGHAM

Single Punch Tablet Machine

Up to $\frac{1}{2}$ " diameter



80 to 100 TABLETS PER MINUTE

HAND TABLET COUNTERS • TINCTURE PRESSES
PILL MACHINES • SUPPOSITORY MOULDS
PUNCHES AND DIES

KENNETH REED & CO. LTD

Pharmaceutical and General Engineers

47 VICTORIA ST., LONDON, S.W.1

Telephone: ABBey 4464 (2 lines)

Cables and Telegrams: Bestoslate, Sowest, London

First in Feeders!



DINKY FEEDER

The first name in feeders—and the first for baby's needs. A unique miniature feeder and pacifier combined. The ideal way of giving orange-juice, medicine or a soothing drink.

Introduce the Dinky to suitable customers. (You'll sell more Maw's Teats, too!)

One dozen, in attractive display outer

14/-

Retail, in outer complete with cleaning brush

1/9

**S Maw Son and Sons Limited
Barnet England**

EXTENSIVE ADVERTISING CREATES DEMAND

for

HERBALENE

A safe herbal laxative. Packed—

	Retail P.T. inc.	Trade per doz.
1 oz. 3 drms.	1/6	10/-
2½ ozs.	2/4	16/-
5 ozs.	3/6	24/-



GARLIC PERLES

	Retail P.T. inc.	Trade per doz.
30 Perles	3/4	23/-
96 Perles	9/6	66/-
192 Perles	17/8	122/-

Purchase Tax 25%

Orders of 40/- or Over Carriage paid direct or via wholesaler.

LUSTY'S

NATURAL PRODUCTS CO.

278/80 LONDON ROAD,

WESTCLIFF-ON-SEA

Q8

**Sell
only
genuine**



Lastonet

ELASTIC NET STOCKINGS

Real Lastonet stockings are always made to measure to ensure a perfect fit. Customers also prefer the feather-weight net which is cool, and stretches in all directions for firm even support. Lastonet discounts, too, are particularly generous! Send today for supply of measurement forms and display material to participate in this brisk trade.

* Guaranteed for 6 months

* Supplied with ordinary National Health prescription
LASTONET PRODUCTS LIMITED, CARN BREA, REDRUTH, CORNWALL

Always made to measure

PERRY'S NEW FORMULA INFANT POWDERS

ESTABLISHED



1863

PERFECTLY SAFE FOR
BABIES AND CHILDRENDO NOT CONTAIN
CALOMEL OR POTASH

PERRY'S POWDERS, LEEDS



Free!

BOOKLET "BUYING SHARES OUT OF EARNINGS"

Become a shareholder in Britain's prosperous industries for as little as £5 down. This booklet explains how. Sent post free. Write to:

Investment Service Dept. X

WHITEHEAD INDUSTRIAL TRUST LIMITED

177 Regent Street, London, W.1

Licensed Dealers in Securities

Directors: A. J. Whitehead, J. D. Kyle, C.A.

Wimzo

ALWAYS MEANS
CLEAN HANDS

ASK YOUR WHOLESALE, OR WRITE:

WIMSOL LTD., KEIGHLEY, FOR TERMS

HAVE YOU GOT YOUR COPY OF:

This book incorporates Rouse's Synonyms and contains over 7,000 Synonymous terms.

It is a most useful book of reference.

5/- postage 4d. from

The Chemist's Dictionary of Synonyms?

THE CHEMIST AND DRUGGIST • 28 ESSEX STREET • STRAND • LONDON • W. C. 2

"ROADMASTER" NIGHTDRIVING GLASSES

—the new accessory that
every Motorist wants!

Manufacturers: FISH OPTICAL CO. LTD. ★

McNeish House, 261 HARROW ROAD, LONDON, W.2

Tel.: CUNNINGHAM 8318 & 8267

★ Makers of the world-famous 'SUNGARD' Sunglasses

When NO SUGAR is indicated

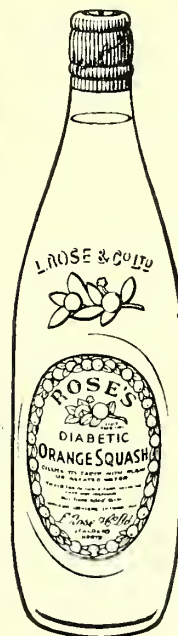
Made specially without added sugar; ROSE'S Diabetic Fruit Drinks provide a pleasant form of refreshment for patients on sugar-free diets.

ROSE'S Diabetic Lime Juice costs 5/6 a bottle; Fruit Squashes—Orange or Lemon—cost 3/-

Rose's

DIABETIC FRUIT DRINKS

FROM LEADING CHEMISTS



Keeping them coming back

There's nothing ephemeral about the *Glaxo* customer.

He's here today and along tomorrow, too. He won't besiege your door, it's true (he's not that type of customer),

but he will come back—well satisfied with his purchase and

with you. Typical of the *Glaxo* products that

stimulate this steady, sustained custom is

MINADEX

Trade mark

Orange flavoured syrup,
containing vitamin A and D to
put protection into the diet . . . iron
for the blood . . . glycerophosphates
for the nerves. Delicious straight
from the spoon, or mixed with milk.

6-oz., 2/6 plus 5½d. tax. (22/6 net per doz. plus P.T.)

12-oz., 4/4 plus 10d. tax. (39/- net per doz. plus P.T.)

80-oz., 24/- (18/- net each) Tax free dispensing pack.

PARCEL	CONTENTS	NET PRICE
MINADEX No. 1.	2 doz. x 6-oz.	£2.0.0. (plus 11/3 tax)
MINADEX No. 2.	1 doz. x 12-oz.	£1.14.8. (plus 9/9 tax)



GLAXO LABORATORIES LTD., GREENFORD,
MIDDLESEX, BYRON 3434

The
CHEMIST AND DRUGGIST
CLASSIFIED ADVERTISEMENTS
 Supplement

28 ESSEX STREET, STRAND, LONDON, W.C.2

ORRIDGE & COMPANY

184 STRAND, W.C.2

Tel.: TEMple Bar 9212/3 & 6340

CHEMIST BUSINESS TRANSFER AGENTS AND VALUERS WHOLESALE AND RETAIL

BRANCHES: BIRMINGHAM · SOUTHAMPTON · LIVERPOOL · SHEFFIELD · CARDIFF

Irish Representative: Mr. J. A. Bassett, Ph.C., 57 Great Victoria Street, Belfast, Northern Ireland. Tel.: Belfast 27078

BUSINESSES FOR DISPOSAL

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

EDINBURGH. Old-established business, central, good turnover. Proprietor retiring for health reasons. Good opportunity. Box C 7322.

PREMISES FOR SALE

17/6 for 36 words (min.) then 4d. per word.
Box 2/-

FROME, SOMERSET. Suitable for wholesalers, distributors, etc. Compact property, consisting of private dwelling house (2 rec., 4 bedrooms) and adjoining shop, showroom, stores over two floors; side access for vehicles. On main road. With vacant possession. Offers around £2,200. F. J. Seward, Butts Hill. C 1543

PREMISES

HOCKLEY, ESSEX, 8 MILES SOUTHEAST-ON-SEA, ONE HOUR TRAVELLING TIME LIVERPOOL STREET. To let, ultra modern double-fronted lock-up shop in rapidly developing area, £6 per week inclusive. Long lease. Reserved for high-class chemist. Immediate possession, trade assured by large number of new private dwellings already occupied. Apply A. W. Deavin & Co., Ltd., 34 Spa Road, Hockley, Essex. Telephone Hockley 400/1. C 1519

APPOINTMENTS

18/- per half-inch (min.) and pro rata.
Box 2/-

ADMIRALTY PHARMACISTS

Applications are invited from pharmaceutical chemists for posts as pharmacists in R.N. Hospitals and Medical Depots at home and abroad. Salary scale £450 x £25—£575. Starting pay according to previous professional experience, but candidates under 23 would enter at appropriate point below minimum quoted. Allowance of £25 a year payable in addition to holders of a recognised qualification higher than the normal pharmaceutical qualification (i.e., Ph.C.). Foreign Service Allowance payable overseas. Prospects of promotion to higher ranks. Superannuation benefits under National Health Service (Superannuation) Regulations 1950; deduction of 6 per cent. made from salary on that account. (Pharmacists due to be entered for compulsory National Service cannot be accepted as candidates.) Apply to Medical Director-General of the Navy, Admiralty, Queen Anne's Mansions, London, S.W.1. C 7066

ENFIELD GROUP HOSPITAL MANAGEMENT COMMITTEE

Part-time, male or female, temporary, required for work within the Group. Four 4-hour sessions per week, payment 26/- per session. National Health Service conditions. Apply to the Secretary, Enfield Group Hospital Management Committee, Chase Farm Hospital, Enfield, stating past and present appointments, age, qualifications, and the names and addresses of two referees immediately. C 7336

CITY OF BRADFORD, HEALTH DEPARTMENT MATERNITY AND CHILD WELFARE DEPARTMENT

Assistant Pharmacist
Applications are invited from suitably qualified persons for the above-mentioned post. Salary in accordance with the recommendations of the Pharmaceutical Whitley Council, namely £450 x £25—£575.

Application forms to be obtained from Medical Officer of Health, Town Hall, Bradford, to whom they should be returned within fourteen days of the appearance of this advertisement. W. H. LEATHEM, Town Clerk. C 7324

CONNAUGHT HOSPITAL, WALTHAMSTOW, E.17

Locum Chief Pharmacist
Locum Chief Pharmacist required for any fortnight up to September 30. Salary 15 gns. per week. Apply with full particulars and copy testimonials to Secretary, Forest Group H.M.C., Langthorne Road, E.11. C 7310

FULHAM AND KENSINGTON HOSPITAL MANAGEMENT COMMITTEE

ST. MARY ABBOTS HOSPITAL, MARLOES ROAD, KENSINGTON, W.8

Pharmacist
required for sterile syringe service and preparing sterile solutions for the Group. Previous experience in this type of work an advantage. Duties to commence as soon as possible. National salary scale and conditions. Applications, stating age, qualifications and experience, quoting the names of two referees to Hospital Secretary (C.D.17) immediately. C 7299

NOTTINGHAM No. 1 HOSPITAL MANAGEMENT COMMITTEE

Senior Pharmacist (Female) and Pharmacist
Applications are invited for the appointment of Senior Pharmacist (female) at the GENERAL HOSPITAL, NOTTINGHAM, to commence duties as soon as possible. Salary £525 x £25—£625 per annum plus extra qualification allowance where applicable.

Applications are also invited for the appointment of Pharmacist at the HIGHBURY AND HEATHFIELD HOSPITALS, NOTTINGHAM, to commence duties as soon as possible. Salary £450 x £25—£575 per annum plus extra qualification allowance where applicable.

Salary and conditions of service in accordance with the Pharmaceutical Whitley Council Regulations. Applications for these posts stating age, qualifications and experience together with the names of two referees to be sent as soon as possible to the Group Secretary, General Hospital, Nottingham. C 194

SCUNTHORPE HOSPITAL MANAGEMENT COMMITTEE

Chief Pharmacist
Vacancy for Chief Pharmacist to group of four hospitals with central Pharmaceutical Department, Category III, salary range £680 x £25 to £780. Non-resident but assistance given to female applicants in finding residential accommodation. Applications, naming two referees to Secretary, War Memorial Hospital, Scunthorpe, Lines. C 7334

PHARMACIST (Male)

required for
UGANDA GOVERNMENT MEDICAL DEPARTMENT
on probation for the permanent and pensionable establishment. Salary scale (including present temporary allowance of 35 per cent. of salary) £769 rising to £1,350 a year. Commencing salary according to experience. Outfit allowance £30. Free passages. Liberal leave on full salary after each tour of 30/36 months. Arrangements exist for preserving N.H.S. superannuation rights in approved cases. Candidates must be M.P.S. of Great Britain. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M3A/34423/CD. C 7335

ST. AUGUSTINE'S HOSPITAL, CHARTHAM, NR. CANTERBURY

Assistant in Dispensing
(male or female) required. Salary scale £335 to £435 p.a., plus £15 p.a. for Certificate of Apothecaries or equivalent. (Lower salary applies until 22 years of age.) Resident accommodation available for female assistant if required. Apply, giving age, experience and names of two referees to Secretary, St. Augustine's Hospital, Chartham, nr. Canterbury. C 7230

ST. BARTHOLOMEW'S HOSPITAL, LONDON, E.C.1

Pharmacists
Two vacancies exist. Salary in accordance with the Whitley Council Scale. Write, enclosing two copies of testimonials to the Pharmacist. C 7345

ST. BARTHOLOMEW'S HOSPITAL, LONDON, E.C.1

Senior Pharmacist
Vacancy from September 1, 1954 for SENIOR PHARMACIST, mainly working in the sterilising and aseptic laboratories of the dispensary. Salary in accordance Whitley Council. Write Chief Pharmacist. C 7344

THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON, W.C.1

Pharmacist
Applications are invited for the post of pharmacist at this hospital. Salary within the Pharmaceutical Whitley Council Scale (£450 x £25—£525) plus London Weighting, £25 for recognised higher qualification. Apply by letter to Chief Pharmacist. C 166

THE LONDON HOSPITAL, WHITECHAPEL, LONDON, E.1

Locum Registered Pharmacists
required to mid-October 1954. Salary £14 14s. per week. Dining-room facilities. Write Secretary. C 186

THE LONDON HOSPITAL, WHITECHAPEL, LONDON, E.1

Pharmacist
Applicants must be registered Pharmacists. Salary scale £450 (age 23) x £25 to £575 plus London Weighting according to previous experience and service. Dining-room facilities available. Write Secretary. C 179

'UNISEC' from the Single
Unit to the Complete Pharmacy
 WRITE FOR YOUR COPY OF THE STANDARD
 REFERENCE OF PHARMACY FITTING
MYERS of OLD ST.
 133/5 & 141/7 OLD STREET, LONDON, E.C.1

**TABLET COATING EXPERT—
 AUSTRALIA**

Pharmaceutical manufacturer in Sydney requires expert tablet coater for permanent, progressive position. Reply in first instance to NSHC, Bank of New South Wales, Berkeley Square, London, W.1. giving age, experience and qualifications. C 7337

Appointments—Continued

**THE MILLER GENERAL AND
 ST. ALFEGE'S HOSPITALS,
 GREENWICH, LONDON, S.E.10**

Assistant in Dispensing

Permanent or locum required at each of the above hospitals. Whitley Council rate and conditions. Apply Chief Pharmacists, Tel.: Tid. 1136 and Gre. 2655 respectively. C 7332

**UPTON HOSPITAL,
 SLOUGH, BUCKS**

Senior Pharmacist

required at this General Hospital where there are busy out-patient clinics. Department is equipped with facilities for manufacture and sterile work which is increasing as hospital grows in size. Salary scale £525—£625 p.a. plus higher qualification allowance where appropriate. Applications, stating age, qualifications and experience together with two references, to Hospital Secretary. C 7057

**WOOLWICH GROUP HOSPITAL
 MANAGEMENT COMMITTEE**

Senior Pharmacists or Pharmacist

Applications are invited for the following appointments:

Senior Pharmacist,

Brook General Hospital, Woolwich

This is an expanding hospital of 470 beds and includes S.E. Regional Centres for Neuro and Thoracic Surgery. Modern and well equipped pharmaceutical department catering for a wide variety of work. Applicants should be experienced in sterilisation technique and capable of taking charge of this section of the department.

Senior Pharmacist,

St. Nicholas Hospital, Plumstead

A busy general hospital of 345 beds and a large out-patient clinic. The work is varied and interesting, covering all branches of pharmacy.

Pharmacist,

Memorial Hospital, Woolwich

This pharmacy also deals with the requirements of a number of subsidiary hospitals and provides excellent experience. Candidates who have recently qualified are invited to apply. Applications for these posts, which may be resident if desired, to be sent to Group Secretary, Memorial Hospital, Woolwich, London, S.E.18. C 7319

SITUATIONS OPEN

8/6 for 36 words (min.) then 3d. per word.
 Box 2/-

The engagement of persons answering these advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

RIKER LABORATORIES LIMITED

require experienced representatives, preferably pharmacists, for the following territories, to commence employment in September:—

Northern Scotland
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Eastern Scotland
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Riker representatives receive salary, bonus and expenses. A company car is provided and there is a pensions scheme. The positions offer the opportunity of joining a young and rapidly expanding company with a unique range of medical products. Apply in writing, giving an outline of experience to Managing Director, Morley Street, Loughborough, Leicestershire.

C 7176

RETAIL (HOME)

BEDFORD. Pharmacist required to manage family type branch. Congenial post; pension and life insurance scheme. Lady or gentleman. Full particulars in first instance to the Directors, Taylor, Brawn and Flood, Ltd., 71 High Street, Bedford. C 1524

EALING. Excellent opportunity for energetic pharmacist to manage nicely fitted branch in pleasant suburban area. Generous salary and monthly bonus. Excellent self-contained flat available near to branch. Good supporting staff. Permanency with generous sickness benefits and pension fund. Apply with full details stating when available for interview to Chief Pharmacist, Grange Road, Leyton, E.10. C 1552

EDGWARE. Unqualified dispensing assistant required for good-class pharmacy. Previous retail experience essential. Apply with all particulars to John Harley, Ltd., 153 Regency Street, S.W.1. C 1549

EDMONTON, MIDDLESEX. Excellent opportunity for energetic pharmacist to manage busy branch in pleasant area. Well-fitted shop. Adequate assistance. Modern dispensary. Progressive salary with monthly bonus and rota duty payments. Accommodation available if required. Permanency with pension fund, etc. Apply with full details stating when available for interview to Box C 1550.

FINCHLEY, N.3. Unqualified assistant required for good-class pharmacy. Duties chiefly dispensing with some counter work. Hours 9 a.m. to 6 p.m. Permanency. Salary plus bonus. Three weeks holiday a year. Please apply with details of previous experience to Messrs. Young & Harrison, Ltd., 476 Hertford Road, Enfield, or telephone Howard 1723 and 2916, for an appointment. C 7328

HENLEY-ON-THAMES. Unqualified dispensing assistant wanted, either sex. Permanency, top wages. No Sunday or holiday duty. Counter work optional. Fairbairn, 24 Reading Road, Henley-on-Thames. Telephone: Henley-on-Thames 211. C 1541

ILFORD. Pharmacist required to manage expanding branch close to busy main-line station. Up-to-date dispensary and excellent supporting staff. Self-contained flat available within easy distance of the branch. Attractive salary and bonus scheme. Apply with full details stating when available for interview to Box C 1551.

LEEDS. Reynolds & Branson (Retail), Ltd., require gentleman as qualified manager of their pharmacy in Lower Briggate, Leeds, 1. C 1547

LIVERPOOL Pharmacist-manager required for new pharmacy, permanent position, Salary £832 per annum for 44-hour week, full supporting staff which includes a dispenser. Apply, Managing Director, Metcalfe & Co. (L'pool), Ltd., 34 Landford Avenue, East Lancashire Road, Liverpool, 9. C 1513

NORTH LONDON SUBURB. Excellent opportunity for experienced pharmacist to manage substantial business. Spacious shop and dispensary, nicely fitted. Good supporting staff. Excellent salary and monthly bonus. Superannuation fund, etc. Accommodation available. Apply Chief Pharmacist, Grange Road, Leyton, E.10. C 1554

PHARMACIST/MANAGER required, male or female, for well-fitted pharmacy, Bethnal Green, E.2. Convenient Central Line. £15 p.w. plus excellent commission. Apply A. Brunton, M.P.S., 515 Cambridge Heath Road, London, E.2. C 1555

QUALIFIED MANAGER required with view to purchase. Opportunity for young pharmacist to acquire city business over a period. Living accommodation available. Apply Blore, Chemist, Broad Street, Salford, 6. C 1545

STOKE-ON-TRENT. Pharmacists required, £850 p.a. plus rota fees. Modern Pharmacies, S.D., 3-bedroomed house with garage in pleasant area, 44-hour week, superannuation and sick pay. Supt. Pharmacist, Burslem & District Co-op. Chemists, Ltd., 13 Market Place, Burslem, Stoke-on-Trent. C 1511

UNQUALIFIED MALE for London, W.1. Mainly counter. Some private dispensing. Pleasant working conditions, Box C 1562.

VACANCY for qualified dispenser. Apply J. T. Davies (Chemists), Ltd., 13 Walter Road, Swansea. C 1564

LOCUMS WANTED

LOCUM PHARMACISTS required for London and suburban areas. Long or short periods August to October. Permanency at conclusion of tour if desired. Salary and expenses basis. Apply to H. Warburton, M.P.S., London Co-operative Chemists, Ltd., Grange Road, Leyton, E.10. Phone: Leytonstone 5671. C 1553

QUALIFIED LOCUM, lady or gentleman, as locum for a fortnight, any time during August 9 to September 25. Would suit Australian or any pharmacist wishing to see English countryside. Please state terms to G. Turner (Biggleswade), Ltd., Biggleswade, Phone 2132. C 1522

WHOLESALE

AGENTS calling upon chemists in all districts required by old-established firm, to handle their unique, quick selling, and exclusive lines. Very high commission. £20-£25 per week easily earned. Box C 1548.

ALLEN & HANBURYS, LTD., Ware, Herts. require pharmacist as a senior assistant to the manager of the factory. Preference will be given to applicants with previous industrial experience, aged 28-45. The post is pensionable. Apply, giving full details of age, qualifications and experience, to Personnel Manager, C 7341

ALLEN & HANBURYS, LTD., require two pharmacists to act as medical representatives. Applicants would be required to undertake initial training for a period. Remuneration is by salary and expenses; a car is provided. Previous experience is not essential. There is a contributory pension scheme. Applicants should send particulars, in writing, of age, qualifications and experience to the Personnel Manager, Allen & Hanburys, Ltd., Bethnal Green, London, E.2. C 7326

APPLICATIONS ARE INVITED for the post of representative in Northern Ireland. The position involves both medical and veterinary representation. Pharmaceutical qualification an advantage but consideration will be given to unqualified applicants with some pharmaceutical knowledge. Remuneration is by salary and expenses and is progressive. A car is provided. Previous experience not essential as the successful applicant will be required to undergo a course of training. Applications will be treated in the strictest confidence and should be addressed to Sales Director, Bayer Products, Ltd., Africa House, Kingsway, London, W.C.2. C 7325

—IMPORTANT—

Box Office numbers are intended exclusively for specific answers to particular advertisements. Price Lists, Trade Circulars, Samples and Printed Matter cannot be forwarded.

Situations Open—Continued

TOKALON, LTD., require an additional representative for Eastern Counties territory. Applicants must be car owners and existing connections with chemists will be an advantage. Remuneration by salary, commission, car allowance and expenses. Write, stating age and experience to, Tokalon, Ltd., 24 Gilbert Street, London, W.1. C 1559

ASSISTANT SALES EXECUTIVE required by Riker Laboratories, Ltd. Previous experience is not necessary and while a pharmaceutical qualification is not essential, the position would admirably suit a recently qualified pharmacist who feels that he is suited to an administrative and sales promotional career. There are excellent prospects of advancement and a five-day week and pension scheme are in operation. Remuneration is by salary and bonus. Apply, giving full details, in confidence, to the Managing Director, Morley Street, Loughborough, Leics. C 1557

BIOREX LABORATORIES, LTD. Sales representative required for expanding travellers force, calling on retail chemists, hospitals, with drugs, galenicals, ethicals, patents, dressings and sundries. Pharmacists preferred, but experienced representative non-qualified considered. Car owners with established connection in Greater London area. Salary, commission, expenses; a high income can be earned by an able person. Also industrial representative for London required. Apply with full particulars to the Managing Director, 47 Exmouth Street, London, E.C.1. C 7330

EXPERIENCED PROCESS WORKER required for tincture department of London Drug House. Good salary, five-day week, canteen facilities. Apply Box C 7327.

FURTHER MEDICAL REPRESENTATIVES will shortly be required by an internationally-known company of manufacturing chemists to call on doctors and hospitals only in:—(1) Part of the London area. 2, The Counties of Somerset, Devon and Cornwall. Remuneration will be above average and a car provided. Applicants should have a sound pharmaceutical or medical background and be able to work on their own initiative. Applications, which will be treated in the strictest confidence, should contain full details of age, education and career, and should be addressed to Box C 7313.

HOME SALES MANAGER required by London Manufacturing Chemists marketing ethical and public products. Pharmaceutical qualification desirable. Excellent working conditions, good salary and prospects; pension scheme. Company's staff are aware of this advertisement. Applications, giving age, and full particulars to Box C 7317.

IF YOU WISH to make selling to chemists your permanent career the following opportunities are open to you:—(1) An immediate appointment to a sales representative's post in the following areas:—(a) Leicester; (b) Liverpool; (c) Bristol. Previous experience in contacting chemists is desirable but not essential as full training in the Company's products and sales methods will be given. A car is provided and remuneration is by salary, commission and expenses. Age limits twenty-six to forty-one. Applicants should give full details of previous appointments, positions held, age and area desired. (2) Additional appointments are envisaged in 1955 and trainee representatives for these opportunities are required immediately at our North London Sales Office for a period of at least six months to absorb the necessary selling technique in preparation for a permanent post on the sales force. Salary of £400 per annum will be paid during training period. The following qualifications are necessary: Age twenty-five to thirty, mobility and willingness to remove to any part of the United Kingdom on appointment is essential. Applications, which should clearly state appointment of interest will be treated in strictest confidence. Apply Box No. H.S.M. C 7329.

MANUFACTURING CHEMISTS in North Lancashire require a pharmacist with Ph.C. degree. Applicant must have initiative and ability to control manufacturing. Reply in confidence giving full particulars of experience, age and salary required. Box C 1537.

MEDICAL REPRESENTATIVES required immediately by Lederle Laboratories for the following areas: (1) Sussex; (2) Liverpool and N. Wales; (3) Northampton and Leicester; (4) N.W. Riding Yorkshire; (5) Hants and Dorset. Applicants should be men of striking personality and initiative, should be 25/35 and have a pharmaceutical qualification or experience with an ethical house, of detail work among doctors and hospitals. Congenial, well paid posts backed by outstanding products and first-class promotional material. Liberal expenses, company car supplied. Full details in writing to Sales Manager, Lederle Laboratories Division, Cyanamid Products, Ltd., Bush House, London, W.C.2. C 7280

PARKE, DAVIS & COMPANY, LIMITED, invite applications from pharmacists for a junior executive position in their pharmaceutical manufacturing division. The position offers an opportunity to gain wide experience in modern, large-scale production methods. Some previous manufacturing experience is desirable, although students qualifying this year will be given equal consideration, 5-day week, staff restaurant, generous pension plan. Write with full particulars to Personnel Manager, Parke, Davis & Company, Limited, Staines Road, Hounslow, Middlesex. C 7320

PHARMACEUTICAL SALES SUPERVISOR. Have a client who is one of America's largest pharmaceutical manufacturers. This company has successfully started its British operations. It has ambitious plans to expand but is handicapped by lack of sufficient sales management personnel. It has asked us to help them select an experienced, capable field manager. The man desired is probably happily employed in a managerial capacity by a major pharmaceutical house but his advancement is blocked by circumstances. He must be under 40 years of age. The Executives of our client know of this advertisement. Please write in full confidence to: Mr. L. B. Singleton, F.P.S., L. B. Singleton, Ltd., 16 Berkeley Street, London, W.1. C 7302

QUALIFIED BACTERIOLOGIST wanted to take charge of laboratory in Newmarket area; must be experienced in laboratory techniques; knowledge of veterinary work an advantage but not essential. Please write with full details to Box C 7346.

REPRESENTATIVE, based in Liverpool, to call on retail chemists in the West Lancashire and Lake Districts. Salary, commission, bonus and expenses. Write Sales Manager, Thos. Christy & Co., Ltd., Aldershot. C 7338

REPRESENTATIVE WANTED

Representative wanted by manufacturers of surgical dressings and druggists' sundries, to call on chemists in Birmingham and district; salary, expenses and commission. Box C 7287.

SUNDRIES ASSEMBLERS AND CHECKERS. Vacancies for both at a new chemists' sundries warehouse in Colliers Wood, S.W.19. Applicants please state age, details of experience and when free for interview. Managing Director, Unichem, Ltd., 3 Broadwater Road, S.W.17. C 1535

WE DON'T FIT round pegs in square holes, but we do try to fit our managers in suitable pharmacies where they will be happy and successful. In the early autumn we shall have one or two vacancies due to retirement and expansion in and around London. If you are a pharmacist looking for a permanency with a good superannuation scheme, have personality, enthusiasm, willing to take responsibility, and give and expect a fair deal then write to me. Give fullest details which will be treated in strictest confidence. All letters will be answered. Managing Director, Arnold M. Gee, Ltd., 12 High Street, Colliers Wood, S.W.19. C 1538

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WINTHROP PRODUCTS, LTD. (Associates of Bayer Products, Ltd.) require a young man (22-25) of good education with a pharmaceutical or medical background to assist the Export Sales Manager. The position is interesting and progressive. Full particulars education, experience and present salary to Export Director, Winthrop Products, Ltd., Africa House, Kingsway, London, W.C.2. C 7339

WHOLESALE (OVERSEAS)

COSMETIC CHEMIST required by well-known firm of makers of beauty products with view of taking up position in South Africa after a thorough training in English factory. Box C 1520.

WEST AFRICA. May & Baker, Ltd., Dagenham, Essex, invite applications from young single pharmacists aged 23/30 with sound commercial background in retail and/or hospital practice. These positions offer interesting and progressive careers to men of character and integrity and entail short tours within the Colonies with generous home leave. Duties consist of the promotion of the company's products to the medical profession, hospitals, retail and wholesale trade. Training will be given in the U.K. There is a contributory pension scheme. Write, giving full details to the Personnel Officer. C 7347

SOUTH AFRICA SALES EXECUTIVE. A leading pharmaceutical and chemical organisation with a manufacturing subsidiary in the Union invites applications from Pharmacists aged 28-35 to fill important vacancy in sales division. Executive experience an advantage but training will be given in U.K. prior to appointment. Write giving full details of education and career to Box C 7292.

SOUTHERN RHODESIA. Interesting and progressive careers as representatives in the sales organisation of a leading company in the chemical and pharmaceutical field are offered to pharmacists with good retail or hospital experience. The positions should appeal to and will be filled by young (26 to 35 years) active men. Preferably unmarried, with sound education to whom full training will be given prior to appointment overseas. Write giving full details of education and career to Box C 7291.

SITUATIONS WANTED

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SURGICAL APPLIANCE FITTER. 20 years' experience in fitting trusses, belts, supports, elastic hosiery and a general surgical knowledge seeks change of employment with more scope for own initiative. Box C 1561.

WHOLESALE

PHARMACIST, with wide experience including design, building, organisation, and control of production unit overseas, also sales development and administration, seeks managerial post home or dominions. Box C 1556.

PRODUCTION MANAGER. 20 years' experience creams, emulsions and perfumes, management and staff control. Good engineer, seeks progressive position. Box C 1560.

SWISS CITIZEN, age 30, good education, English, German and French speaking, six years' experience in responsible positions in the Far East, of late sales and advertising manager of Far Eastern branch of well-known American pharmaceutical company, seeks similar appointment, preferably on the Continent or U.K. Box C 7321.

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THE TRADE MARKS set out below were assigned on 31st December, 1953, by Tobacco By-Products and Chemical Corporation of 1350 South Seventeenth Street, Louisville, Kentucky, U.S.A., to Virginia-Carolina Chemical Corporation of 401 East Main Street, Richmond, Virginia, U.S.A., without the goodwill of the business in which they were then in use. No. 386183; Mark: Black Leaf 40; Goods: A solution of nicotine for dipping animals. No. 506514; Mark: Black Leaf 40; Goods: Chemical substances for veterinary and sanitary purposes and preparations for killing vermin or birds and animals. No. 529610; Mark: Black Leaf 40; Goods: Chemical substances used for agricultural and horticultural purposes. C 7343

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AGENTS REQUIRED for all territories by leading manufacturers of toilet rolls and grease-proof packs, also world-renowned brand of Xmas crackers. Must have good connections with wholesalers, co-ops and multiples. Good terms to right men, Box AC 81768, Samson Clarks, 57/61 Mortimer Street, London, W.1. C 157

FRENCH COSMETIC COMPANY launching their high-class products in this country require first-class agents to represent them in all areas. Excellent terms for first-class representation. Please state full particulars including other lines carried. Box C 1534.

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ALL KINDS OF BOTTLES, JARS, SCREW CAPS, cartons, packaging materials and manufacturers' stocks of all kinds bought at fair prices for spot cash. We are buyers of merchandise of EVERY DESCRIPTION. Clearance Stocks, Discontinued lines, Surplus and Redundant Stocks. Should you have anything for disposal, please send us samples and particulars. Reliance Trading Co., 13 New College Parade, Finchley Rd., N.W.3, C 153

SANTONIN AND CALOMEL TABLETS required, any strength or quantity. Offers to Box C 1546.

MEDICAL BOTTLES, tablet bottles, closures and all types of packaging materials purchased, no quantity too large. Samples and full details to Noel Davold & Co., 9 Laurence Pountney Lane, Cannon St., E.C.4, Mansion House 3951-2. C 178

WANTED: Several old pharmaceutical show-globes and apothecary jars. Send descriptions, prices and, if possible, photographs. Box C 1536.

WANTED: Second-hand plant: Gas or electric water stills; incubator; electric sterilising oven; 30-50 gallon melting pans; oil-jacketed, gas or electrically heated; tube-filling machine (hand); labelling machine. Apply Biorex Laboratories, Ltd., 47 Exmouth Street, E.C.1. C 7331

WE WILL PURCHASE for cash a complete stock, a redundant line, including finished or partly finished goods, packing raw materials, etc. No quantity too large. Our representative will call anywhere. Write or telephone:—Lawrence Edwards & Co., Ltd., 6/7 Wellington Close, Ledbury Road, London, W.11. Tel.: Bayswater 4020, 7692. C 140

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ENTIRE CHEMIST-SHOP WALLFITTINGS, counters and cases in old Spanish mahogany for sale at bargain price. Excellent condition. Apply J. T. Davies (Chemists), Ltd., 13/14 Walter Road, Swansea. C 1542

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THE PROPRIETORS of British Patent No. 656027 are prepared to sell the patent or to licence British manufacturers to work thereunder. It relates to "Process for producing dispersions in water of solid organic insecticidal or organic anticryptogamic materials only slightly soluble in water." Address: Boulton, Wade & Tennant, 112 Hatton Garden, London, E.C.1. C 7333

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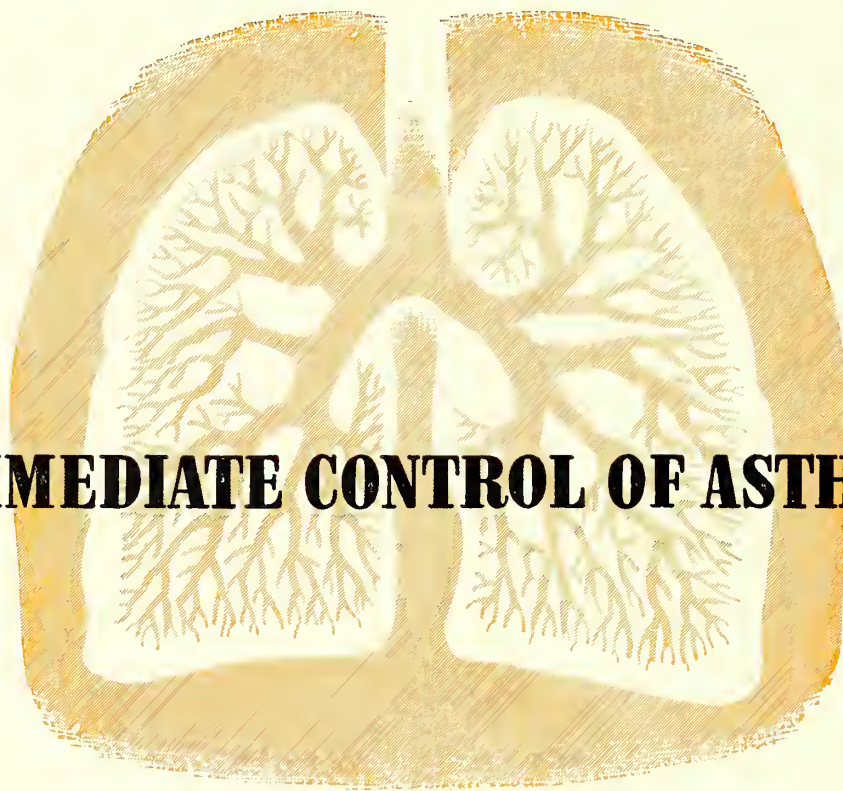
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